

DAILY METAL REPORTER

MONTHLY SUPPLEMENT

# METALS

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By Office of Defense Mobilization

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London, England

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**NOVEMBER  
1954**

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## Two LINE Editorials

The Germans are blaming their cold, wet Summer on our explosion of the hydrogen bomb. They might be interested to know that many Americans are blaming our hot, dry Summer on the same cause.

Sometimes it seems that the only hysteria in this country is being exhibited by those who are so frantically urging everybody else not to be hysterical.

A British paper says that Red China is "closer to membership in the United Nations than ever before." It might also be observed that Mars is now closer to the earth than ever before — but it's still 40,000,000 miles away.

A research expert, after an exhaustive survey, announces the discovery that women with charge accounts buy more than those who pay cash. Any married man could have told him that, and saved the cost of the survey.

Wouldn't it be fine if India's Nehru could solve all his own problems as easily as he solves everybody else's?

The Democrats may not be provoking the fight amongst the Republicans, but nobody can say they are not enjoying it.

Astronomers report that there has been a distinct falling off in the reports of flying saucers. Maybe the little men from Mars didn't like what they saw on their first visits to our planet and are not coming back.

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# Washington Report



November 11, 1954

**T**HE Government's stockpile program was used to help both consumers and producers of metals during the month in review. Copper was diverted from the stockpile to make supplies of the metal available to domestic consumers which otherwise faced shutdowns. The General Services Administration again made purchases of lead and zinc from domestic producers for the stockpile.

As previously stated in our Late News section last month, the Government made some 26,500 tons of refined copper available to industrial consumers for October consumption. The October metal included 17,500 tons accumulated under production-encouraging contracts and 9,000 tons that had been scheduled for delivery to the stockpile last month. The metal was sold by the GSA outright to private industry, at 30.00c a pound plus handling charges, under the direction of the Commerce Department, which also announced stringent controls over copper and copper scrap export licenses as long as necessary to prevent undue diversion of limited domestic supplies.

## More Copper Made Available

On October 29, the Office of Defense Mobilization again acted to defer November and December deliveries of refined copper to the Government inventory authorized under the Defense Production Act and for the national stockpile. The deferral totaled 25,000 tons, of which 18,000 tons had been scheduled for the stockpile and 7,000 tons from production-encouraging contracts.

The copper trade (producers and consumers) as a whole was pleased by the Government's action. Chile, however, was reported to have told the U. S. Government that it is "indispensable" that Chile's opinion and interest be taken into account before the U. S. makes a major decision affecting the world copper market, according to dispatches from Santiago.

## Chilean Protest

A Chilean note to our Government was said to have referred to a "single and free copper market in the Western world" and to "conventional norms for the regulation of price." The Chileans apparently are not aware of the fact that the U. S. Government, except during a national emergency, does not regulate the copper market or control the price of the metal.

On October 29, the GSA asked lead

and zinc producers to again make offers of the two metals for delivery to the stockpile by January 15, 1955. The same conditions that applied to previous purchases by the GSA, continued in force; namely, that the lead and zinc must have been domestically mined after April 15, 1954. The GSA is estimated to have purchased 10,000 tons of lead at 15.00c New York, and between 12,000 and 15,000 tons of zinc on the basis of 11.50c a pound East St. Louis for the Prime Western grade.

## Long-Term Stockpile Goal

According to informed quarters here, the Government has increased its long-term stockpile goal to \$9,000,000,000, or \$2,000,000,000 more than any previous figure given for the program. Practically all of the additional \$2,000,000,000 is to be spent for a wide variety of minerals and metals of both domestic and foreign origin, it was stated.

Although officials said the bulk of the long-term purchases would be made domestically, there would be some buying abroad of items not obtainable domestically. Copper, lead and nickel would be bought heavily from sources where available on this continent. In all, some 55 items are on the list.

## U. S. Credit For Peruvian Firm

The Export-Import Bank announced that it is prepared in principle to extend a credit to Southern Peru Copper Corp., a subsidiary of the American Smelting and Refining Company, in an amount not exceeding \$100,000,000 to assist in financing the United States dollar costs for developing the Toquepala copper project in Southern Peru.

This action is conditioned upon working out certain arrangements to the satisfaction of the bank and the

borrower, including provision for the remaining financing of the \$205,000,000 project. It is contemplated that the credit if established would be for not more than 20 years and would bear interest at not less than 6 per cent per annum. The Toquepala mine is one of the 10 largest copper deposits in the world.

## Metal Allotments

Allotments of copper, steel and aluminum for "A" products for defense and atomic energy needs during the first quarter of 1955 were announced by the ODM on November 5. Copper allotments are 2 per cent lower, aluminum allotments 10 per cent higher, and steel allotments 8 per cent lower.

The increased aluminum requirements do not signify an increased military program, ODM emphasized. Aluminum allotments for the first quarter of 1955 total 117,485,000 pounds; copper and copper base alloy allotments, 70,492,000 pounds, and steel 601,323 short tons.

## Extend Magnesium Plant Lease

The General Services Administration has been active during the month in review on other matters concerning the metal industry. The GSA announced October 26 that it was extending for 90 days, from November 1 through January 31, 1955, the present lease with the Dow Chemical Co. for operation of the Government-owned magnesium plant at Velasco, Texas. Dow has operated the plant for the Government's account since 1950 and has offered to buy it from the U. S. but the Department of Justice has advised GSA that in its opinion the sale to Dow might tend to maintain a situation inconsistent with the anti-trust laws.

## Nickel Pilot Plant

The day previously, GSA moved to strengthen the free world's defenses and to add to Cuba's growing mining and metallurgical industry. The agency reached an agreement with Freeport Sulphur Company for pilot plant study of a new process for obtaining nickel and cobalt from Cuban ores. The pilot plant will be set up near New Orleans, La., and will be financed by the Government. Freeport will treat 50 tons of Cuban ore daily, and is aiming at bringing the nickel resources of the Cuban Moa Bay district into commercial production.

## Titanium Quarterly Report

The first Government announcement of the quarterly output of titanium mill products, made November 1 by the Business and Defense Services Administration, showed a new high of 691,123 pounds for the third quarter of 1954. Production during the current quarter has been running at about the same rate, BDSA officials said. The third quarter total output exceeded by 134,451 pounds the second quarter production of 557,672 pounds.

ODM had entered the titanium picture earlier, on October 26, when it instructed the GSA to arrange a research and development contract with the Bureau of Mines facilities at Boulder City, Nev., and Albany, Ore.,

(Continued on page 19)

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# \$5.3 BILLION OF STOCKPILE METALS, MATERIALS HELD OR ORDERED; MINIMUM GOAL IS \$7 BILLION

## Over Billion Dollars in Long-Term Contracts Signed to Boost Domestic Copper Output Under Defense Production Act Projects

### THE AUTHOR

Elmer H. Weaver, author of the article on this page, formerly was Assistant Director for Materials of the Office of Defense Mobilization. He has returned to his position with the Union Oil Company of California, from which firm he had been on loan to the Government.

**D**URING the past year it has been my great privilege to serve the Government as Assistant Director for Materials to the Office of Defense Mobilization. Throughout most of my business life I have had a very close interest in materials, ranging from the raw state to the finished article. At ODM my chief responsibilities have dealt with the nation's stockpile of strategic and critical materials and the expansion of domestic production. We are responsible to the Director of ODM for the determination of the adequacy of materials to meet defense and stockpile needs, and for the development of materials expansion and procurement programs. Our responsibilities include the certification of production incentive programs, government loans for such programs, and general direction of the purchase or commitment of metals and minerals. It also includes recommending or approving general programs for exploration for critical and scarce materials. Similar responsibility exists, when applied to cooperation with the General Services Administration, for the installation of additional equipment, facilities, processes, or improvements to plants required for the production of necessary materials for defense.

### ODM Responsibilities

Since I am the only representative of ODM on your program, I should state at the outset that in addition to the responsibilities in the Materials Area, the Office of Defense Mobilization, through the Director, Arthur S. Flemming, is responsible to the President for Defense Mobilization planning and policies involving manpower, production, non-military defense, telecommunications, and stabilization. In total number of personnel, ODM is very small. As an agency within the Executive Office of the President, ODM confines its activities to policy

direction, general program planning and the coordination of the work of other agencies in the field of defense mobilization. The various departments of government involved in each action implement the policies and plans agreed upon. It should be emphasized that this is a team operation. Mr. Flemming, the Director, relies upon the advice and counsel of the Defense Mobilization Board which is composed of the Secretaries of State, Defense, Interior, Agriculture, Commerce, Treasury, Labor, the Chairman of the Board of Governors of the Federal Reserve System and the Director of the Foreign Operations Administration. Mr. Flemming also sits with the Cabinet and is one of the statutory members of the National Security Council. He thus receives top level information on the nation's security and defense problems.

Getting back to the Materials Area, I regret that we have not been able to do everything that some of the domestic miners apparently expect of us. In some cases it has been necessary to apply the brakes on the desires of those who seek great sums of money for this or that project. We are merely applying good sound business principles to Government operations.

I wish I could take all of you into my confidence and explain in detail just why some things can or cannot be done. You of course are familiar with the security restrictions placed upon us and therefore I must ask your indulgence if I cannot fully document our position on some ma-

terials since I am forced to omit classified information.

Basically, in the Materials Area it is the responsibility of ODM to develop policies which will result in achieving our defense materials posture (including the stockpile) in the shortest period of time without interfering with the current defense program and without creating undue hardship within the civilian economy. We have developed a stockpile procurement program that, consistent with the objective just stated, will make the maximum contribution to strengthen our domestic sources of supply, which of course is our most secure mobilization base. Further, it is our purpose to keep the United States in a position where we can turn to foreign sources of supply in those areas where we know that it will be impossible for us to rely completely on domestic sources of supply.

### Expansion Programs

Under the Defense Production Act we are striving to develop expansion programs wherever needed which will help us in achieving our stockpile objectives and which will at the same time help us broaden our mobilization bases. Further it is our desire to carry forward programs that will encourage wherever possible the development of sources of critical materials within the United States and thereby decrease and prevent wherever possible a dangerous and costly dependence of the United States upon foreign nations for supplies of these materials at times of national emergency. In fact, as you gentlemen realize, the last stated policy — and I repeat — “and thereby decrease and prevent wherever possible a dangerous dependence of the United States upon foreign nations for supplies of these critical materials at times of national emergency” is the cornerstone upon which the Stockpile Act was passed by Congress. Many people do not realize that the primary intent of the 79th Congress as expressed in Public Law 520, the Strategic and Critical Materials Stockpil-

Excerpts of address before the American Mining Congress, San Francisco, Calif., Sept. 22, 1954.



ing Act, was to obtain inventories of strategic and critical material not in abundant supply in the United States.

When I received the invitation to give this paper I became a little fearful that I might be put on the grill for not relieving all of the distress in the mining industry, but later on I was greatly relieved when I read the declaration of policy of the American Mining Congress adopted at your 1953 meeting at Seattle. In this declaration I found a great deal to reassure myself that you look to your Government to handle its functions, including defense, adequately and efficiently, honestly and fairly, without waste or extravagance, without political favoritism and without regard to local or group pressures. That is what we are doing.

#### **Discriminatory Practices**

In another section of your statement of policy you deplore discriminatory practices favoring foreign purchases of metals and minerals for stockpiling and urge that Government afford domestic mines at least the same price and other considerations and advantages as are given foreign production by our Government. We in ODM are in accord with such a policy and, in our planning, a great deal is being done toward its fulfillment. In fact, if time permitted, I could enumerate many cases where domestic production is given important advantages over foreign production in the interests of maintaining a strong and effective mobilization base.

Further on your policy declares that the continued operation of prospectors and small mining concerns is important because these smaller operations provide a pool of specialized knowledge and trained manpower available for the expansion of minerals production in the event of an emergency. It is hardly necessary for me to remind you that this policy

is being actively advanced by your Government to a considerable extent through the program administered by the Defense Minerals Exploration Program in the Department of the Interior. Although all or most of you are familiar with the original plan, perhaps some of you may not know of the amended program announced March 22, 1954, which liberalizes much of the program.

#### **Stockpile Withdrawals**

In another part of your statement of policy you recommend that no withdrawals from stockpile be authorized except in a declared emergency when national security clearly requires release of a particular material, and further that all metals and minerals acquired pursuant to the provisions of the Defense Production Act, which are in excess of the needs of programs under the Act, should be transferred promptly to the national stockpile and should be subject to withdrawals only under like conditions of a declared emergency.

So far as the Stockpile Act is concerned, Congress has specifically written into the Act effective safeguards which prevent withdrawal from the stockpile except on order of the President himself and only when required for purposes of common defense, or in time of war or during a national emergency. In the case of surpluses arising under the Defense Production Act, ODM issued last March a policy which in general provides for transfer of such surpluses to the National Stockpile. Where it is determined that the national interest will not be served by transfer to the stockpile, disposal of the surplus will not be made either in whole or part without clear indication that such action will not have a serious effect upon market prices or create market fears or uncertainties. Any such disposal, further, requires the prior approval of the President or an official specifically designated by

him. The policy further states that disposal shall be made only after public announcement well in advance of disposal stating the quantity to be sold, the market in which the material will be offered, the minimum market price or prices that must prevail at the time of sale, and the maximum amounts that will be offered for sale in each calendar quarter or other appropriate period. I submit to you that this action well protects our economy from the severe repercussions that could occur without these regulations. I believe it provides ample safeguards against difficulties you foresaw at your 1953 meeting.

The advances made by your industry are remarkable. A good example is the achievements of the copper industry. Whereas some years ago ores mined averaged two per cent in copper content, today some of the larger properties treat ores containing slightly more than one-half of one per cent of copper. The steel industry receives much publicity for its vast handling facilities for ore, but most people lose sight of the great accomplishment whereby a hundred million tons of copper are handled to produce about 800,000 tons of domestic copper metal.

#### **Minimum Stockpile Goal**

It should be stated, for your information, that of the 75 materials in the national stockpile about 55 are metals and minerals. At the present time the minimum objectives are valued at a little under \$7 billion with more than \$5.3 billion actually in inventory or on order. The minimum objectives have been attained on approximately 40 of the items in the stockpile.

The handling of the stockpile is not a static affair. It is the responsibility of ODM to constantly review the objectives to take advantage of changes in military requirements, supply trends, development of substitutes, and the results of research. In

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this exercise some objectives are raised, others lowered or eliminated. Recently the item of kyanite was eliminated from the stockpile list because of the development of a domestic synthetic substitute. A short time ago titanium was added to the list. It should be stated further that decisions affecting the stockpile are made in cooperation with other agencies. The International Materials Advisory Committee, of which the author of this paper is chairman, meets regularly to consider and advise on the problems involved. In some cases when important issues are involved the problem is placed before the Defense Mobilization Board, or National Security Council, and in rare cases to the Cabinet. By these procedures the questions resolved are the result of the application of over-all Government thinking and experience.

Under the Defense Production Act many projects were promoted to expand the capacity of domestic mineral and metal resources. Among the major programs are aluminum, where the United States capacity has developed from the pre-Korean production of approximately 700,000 tons to the current estimated 1,500,000 tons. In copper over a billion dollars in long-term contracts is now resulting in major additional domestic produc-

tion. Over a half billion dollars have gone into programs to increase production of nickel. Other projects of considerable magnitude include the production of chrome, manganese, molybdenum, tungsten and mercury. In addition, obligations of smaller amounts were incurred in assisting the domestic production of such materials as fluorspar, mica, asbestos and graphite. Not to be overlooked is the ODM's interest in titanium for which large sums are being obligated to provide production facilities for this new metal of strategic importance.

#### Tax Assistance

Under various acts dealing with taxation it has been possible to grant assistance for the expansion of production of metals and minerals. Nearly \$2 billion worth of metals and minerals expansion has been assisted by accelerated tax amortization; steel being the most notable industry using this device. Many billions of dollars of tax amortization also has been granted for the expansion of manufacturing facilities, which in turn should create increased demand for the raw materials produced by the mineral industry.

On March 26, 1954, the President

announced that he had authorized the Office of Defense Mobilization to revise the stockpile program by establishing new "long-term" mineral stockpile objectives. These objectives are intended to eliminate where possible the dependence of the United States upon all but immediately accessible foreign sources in time of emergency. For the purpose of calculating long-term mineral stockpile objectives, no supplies are assumed to be available to the United States in wartime except in the case of that limited group of countries to which wartime access can be had with the same degree of reliance as afforded by sources within our country. ODM is engaged in a thorough review of all its stockpile items to determine the effect of this directive. Owing to the accelerated development of domestic sources of many materials over the past several years there will be several cases where it will not be necessary to make additions beyond the minimum objectives to meet the President's long-term stockpile objectives.

The recent enactment by Congress of the Agriculture Trade Development and Assistance Act will no doubt result in the importation of some mineral.

(Continued on page 19)

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Stockpiling Program Strengthens Both Lead and Zinc Markets

By ARCHIE J. McDERMID, Commodity Specialist, Nonferrous Scrap Metals

Base Metals Branch, U. S. Bureau of Mines

**T**HE REMOVAL of price ceilings and other restrictions on industrial operations in February 1953 had a notable effect on the use of some scrap metals in this highly competitive industry. Consumption of aluminum and copper scrap, prices of which had been at or near ceiling prices in 1952, increased sharply in the first half of 1953. On the other hand, consumption of lead scrap was a little more and that of zinc scrap a little less in 1953 than in 1952; prices of these materials had dropped below ceilings in 1952, and since then heavy imports of refined metal, ore and concentrates, and reduced stockpile purchases weakened the market for those types of scrap prior to August 1954.

## Aluminum Scrap Use A Record

Aluminum scrap consumption in 1953 was the highest on record, 413,000 tons, an average of 34,000 tons per month. In the first 6 months of 1954 primary aluminum production and consumption were rising, but average scrap consumption dropped to 29,000 tons. In this half-year period aluminum scrap exports were 18,000 tons, compared with 5,000 in the entire year of 1953. In the 16-month period elapsed since controls were

removed, aluminum scrap prices were above the ceilings that had been in effect earlier. Stocks of scrap in the hands of consumers decreased from 25,000 tons at the end of 1953 to 17,000 at the end of June 1954.

The drop in consumption was the result of world-wide competitive conditions. Some foreign countries, notably Japan, Germany and Italy, have large smelting and refining capacities in proportion to their domestic production of ores. After World War II there was considerable military scrap metal in or near all these countries to provide raw material for their smelters. As such supplies were smelted, demand for scrap increased to the point where the foreign smelters were able to compete for scrap in the United States market. In this country independent secondary aluminum smelters used 276,000 tons of the 413,000 reported consumption in 1953, and the primary producers and fabricators used 116,000, as compared with 255,000 and 78,000 tons, respectively, in 1952. Financial aid by the United States to other nations helped to increase exports of scrap metal. Foreign countries could buy scrap with funds borrowed here and could refine it and export the refined metal

back to the United States at a profit. Faced with this situation, secondary aluminum smelters in this country were unable to purchase scrap at prices that would allow them to produce ingot in competition with primary aluminum. Their association, the Aluminum Research Institute, took the position that exports at a time like this should be restricted. The Department of Commerce, while declining to assign quotas, did order, on June 1, 1954, that export licenses would be issued only for actual sales of aluminum scrap. The purpose was to prevent inflation of prices by the accumulation of licenses for large quantities of scrap, many of which were not used. This order did not apply to other types of scrap.

## Copper Scrap Consumption

Total consumption of copper and copper-base scrap was larger in the first half of 1953 than in the second, and the total for the year was a little more than the total for 1952. Although the trend was upward in the first half of 1954, total consumption in the year will probably be considerably less than in 1953.

Consumers of copper and brass scrap fall into four main groups — primary refiners, secondary smelters (consisting chiefly of the brass ingot makers), brass mills, and foundries. The last group includes chemical plants and miscellaneous manufacturers, in this case, for tabulation purposes. Some types of copper-base scrap are used more extensively by one group than by another, but for most types there is competition. Removal of restrictions restored competitive conditions, as indicated in the changed pattern of consumption.

## Refined Copper Situation

Demand for refined copper has been strong. The price settled at 30 cents a pound soon after price ceilings were removed in February 1953 and has not changed since, in spite of a widely held expectation through 1953 that large unsold stocks of

Salient Statistics of Nonferrous Secondary Metals (in thousands of short tons)\*

	—Aluminum—		—Copper—		—Lead—		—Zinc—	
	Jan.-June 1953	Jan.-June 1954	Jan.-June 1953	Jan.-June 1954	Jan.-June 1953	Jan.-June 1954	Jan.-June 1953	Jan.-June 1954
Scrap consumed (gross weight):								
New scrap	322	134	752	315	79	40	166	83
Old scrap	91	36	634	305	541	270	24	12
Total	413	170	1,386	620	620	310	190	95
Metals (of all kinds) recovered from above scrap	367	150	1,162	495	481	240	131	65
Metal (of this kind) recovered from all types of scrap	369	151	958	410	487	244	295	135
Scrap imports	27	5	18	5	5	2	6	3
Scrap exports	5	18	68	105	3	3	1	1
Refined metal and concentrates imported	360	134	669	295	549	216	746	275

\* 1954 figures preliminary or estimated.

Chilean copper would overbalance the demand. U. S. Government action in purchasing this copper for the national stockpile undoubtedly helped to support the price. Monthly scrap consumption by primary copper refiners averaged 18,000 tons in 1952, 27,000 tons in 1953, and 29,000 tons in the first six months of 1954. Average monthly production of refined copper from this consumption was 10,000 tons in 1952, 16,000 tons in 1953, and 15,000 tons in the first half of 1954, the metal being incorporated with production from primary materials. The lower production of metal and higher consumption of scrap in 1954, compared with 1953, 1952, and 1951, indicate that a lower average grade of scrap was being purchased by the refiners in 1954 than is customary.

#### Brass Mill Consumption

Consumption by brass mills declined from 61,000 tons in April, 1953 to 29,000 tons in January, 1954, owing largely to decreased use of brass in ammunition and military equipment, but in part to declining civilian demand. Treatment of copper-base scrap by the brass mills was at about the same level as treatment at secondary smelters in 1950 and 1951, but in 1952 and 1953 the brass mills used 517,000 tons and 499,000 tons respectively, whereas the secondary smelters consumed 400,000 and 387,000 tons in those years. In the first six months of 1954 the secondary smelters used 185,000 tons and the brass mills 181,000 tons. During most of the Korean emergency cartridge-case scrap was channeled to brass mills by the National Production Authority. The secondary smelters sold 304,000 tons of brass ingot in 1953, nearly all of it to the foundries, compared with 308,000 tons in 1952. In addition to ingot, they made 31,000 tons of unalloyed copper products in 1953 and 40,000 tons in 1952. Average monthly production of ingot in the first half of 1954 was about 4,200 tons less than the monthly average for 1953. Production of refined copper (being more profitable than that of brass ingot) at secondary smelters was 22 per cent higher in 1954 than in 1953. As a supplement to their ingot consumption, the brass foundries used 141,000 tons of copper-base scrap in 1953 compared with 143,000 tons in 1952.

#### Copper Scrap Exports

Exports of copper scrap (including brass) were 17 per cent of the domestic consumption of copper scrap

## BUSINESS IN MOTION

### *To our Colleagues in American Business ...*

Improve quality, reduce production costs — either or both. That is the aim of Revere in its relations with customers and prospects. Here is an example that is rather spectacular. It involves overlaying a silicon bronze gasket surface  $2\frac{1}{2}$ " wide around the periphery of a 46-inch diameter,  $2\frac{1}{2}$ " thick steel tube sheet for a large heat exchanger.

During a call on the manufacturer Revere was given the opportunity to see the overlaying operation. It was being done manually, by the gas-shielded tungsten arc method. Experience showed that the time required to complete the operation was from  $6\frac{1}{2}$  to 7 hours. Included in the material cost was a full tank of argon, price about \$26.40. After the gasket surface was completed, it was machined, which sometimes revealed

excessive iron pickup, caused by differences in welding speed or other operator variants. Sometimes there would be porosity, sometimes excessive hardness. Repairing these spots by re-welding meant that the surface had to be machined again. The company in question is highly skilled, and seldom needs to call in people from outside. However, this difficult operation was of considerable concern because of the size of the contract and the extra costs involved. Revere was asked for its opinion. After studying the matter, it was suggested that the gasket surface could be done more quickly and uniformly by semi-automatic methods, using equipment already available in the

shop. The necessary strict details of procedure were developed in the Welding Section of Revere's Research and Development Laboratory at Rome, N. Y. so that we were able to prove the method. The customer's shop was then revisited and assistance given in setting up the equipment, which included a variable-speed welding positioner to rotate the tube sheet under a stationary head. On the first sheet overlaid by this gas-shielded metal arc process, the time required was 49 minutes.

Time thus was reduced by some six hours. Argon consumption was cut to about 25 cubic feet at a cost of about \$3, representing a saving of about \$23 in gas alone. Cost estimates of the two processes indicated a total saving of about \$50 per tube sheet. Since the

manufacturer still had over one hundred of these heat exchangers to make before the contract was completed, total savings will amount to about \$5,000, as a result of the better method.

It is interesting to note that no Revere materials were involved in this work. Nevertheless, Revere was glad to do it for an important customer, one who buys large quantities of our metals.

In these days it is more important than ever to hold costs down. Perhaps your suppliers have some special skills that you could use. No matter what you make, it would be wise to seek their collaboration on the matter of improving quality, reducing costs, or both.



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in the first half of 1954, whereas exports of aluminum scrap were about 10 per cent of the domestic consumption of aluminum scrap in that period. Some copper-smelting companies believe that exports of scrap have caused higher prices and have depleted the supply of scrap unduly and, therefore, favor some restriction of exports. On the other hand, some smelters support the stand of the scrap metal dealers who oppose restriction of scrap exports. The latter need the outlet provided by the export market when domestic demand is low. A solution of the problem that would satisfy all interested in scrap export transactions would be difficult.

#### The Lead Picture

In 1953, 620,000 tons of lead and lead-alloy scrap were consumed in primary and secondary lead smelters and refineries. Of this total, one-eighth was new scrap and seven-eighths old, most of the latter being battery plates. From this scrap, 481,000 tons of lead, tin, and antimony were recovered in producing refined lead, alloys and chemicals. The scrap consumption and the secondary metal recovery were somewhat greater in 1953 than in 1952. In the first six months of 1954 the average monthly consumption was slightly higher than in 1953, and the trend was upward.

While recovery from lead scrap increased, domestic mine production of lead declined in 1953 to 342,000 tons, which is 12 per cent less than in 1952. This contrast emphasizes the impor-

tance of scrap lead as a source of supply. From 1946 through 1953 secondary lead recovered annually has exceeded domestic mine output. The importance of secondary lead can hardly be overemphasized as an important element of supply.

Worn-out battery plates have long been and probably will long continue the chief source of secondary lead and antimony. Although battery life has been increased through the use of improved grid alloys, better separators, etc., they still wear out and must be re-treated for metal recovery at the secondary smelter.

Supplies of lead in excess of domestic requirements, largely brought about by heavy imports of primary materials and reduced stockpile purchases, depressed the price of primary and secondary lead from late 1952 until the present. The newly authorized purchase program whereby the Government buys lead for a long-term stockpile has increased demand and lead prices somewhat since March 26, when the program was first announced. As recently as August 20, 1954, the White House announced that the Government would increase purchases for the long-term stockpile of domestically mined lead and zinc at market prices. These purchases could total 300,000 tons of lead and 300,000 tons of zinc in this fiscal year. No secondary refined lead is being purchased for stockpiling. However, many secondary lead smelters do produce refined lead of com-

mon and corroding grades from scrap metal.

#### Analyzing Zinc Situation

Whereas most secondary lead is reclaimed from old scrap, most secondary zinc from zinc-base scrap is salvaged from byproduct residues, including galvanizers' dross, skimmings, chemical residues, and flue dust—all process material and classed as new scrap. Despite a new high in domestic consumption of slab zinc (978,000 tons) in 1953, output of zinc from domestic mines declined owing largely to low prices resulting from heavy imports of slab zinc, ore, and concentrates and reduced purchases for the strategic stockpile. However, President Eisenhower's announcement in August that purchases of zinc for stockpiling would be increased and that up to 300,000 tons could be purchased in this fiscal year, strengthened the market for both slab zinc and scrap.

The production of zinc from domestic mines decreased from 666,000 tons in 1952 to 547,000 in 1953, but output of zinc from zinc-base scrap declined only 2 per cent. The average monthly consumption of such scrap for the first six months of 1954 was 14,900 tons, and the trend was upward, rising from 14,800 tons in January to 15,600 tons in June. The average for the last six months of 1953 was 14,800 tons. About five-sixths of all zinc-base scrap used consists of byproduct residues, and over half of the residues are generated in galvanizing operations. High consumption of slab zinc in 1953 indicated high generation of zinc process scrap and residues. As consumption of scrap was not increased proportionately, it is evident that consumers did not absorb all the zinc residues generated in 1953 and early 1954. The market for these items, as well as for slab zinc, was depressed by the high imports of slab zinc and primary raw materials. Some of the zinc skimmings that were not absorbed domestically found a market in foreign countries in 1954.

#### Galvanizers' Dross

Galvanizers' dross, the chief zinc-scrap item, is used largely by distillers to make zinc dust, of which it is the chief source, and redistilled slab zinc. The zinc skimmings, flue dust, and hydrosulfite residues generated are used to make zinc chloride, zinc oxide, lithopone, and other chemicals. They are also reduced and redistilled to slab zinc by primary producers. The marketability of such residues depends largely on the distance between the plant of genera-

(Continued on page 19)

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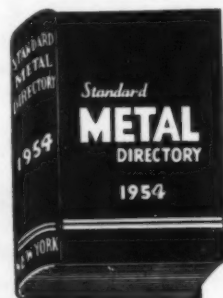
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Higher Malayan Tin Output Could B Fully Offset by Dip in Bolivian Shipments; Lead Tight, Russia Still a Buyer; Zinc Requirements Met

November 4, 1954

**O**CTOBER, while not providing quite such striking price movements as the previous month, was certainly not devoid of interest, at any rate in this country. Just as the market was beginning to settle down again after the disruption of the very serious strikes in the United States and Chile, a big dock strike broke out in London which spread to other main ports and for a time virtually stopped the import of copper and other metals into the U. K.

A good deal of material destined for users in this country was either immobilized in the ports or was diverted to other destinations, notably Continental ports, and as work was not fully resumed at the docks until the early days of November, the dislocation caused by the strike has by no means been fully resolved at this time of writing.

Copper consumers here became seriously alarmed over the supply situation and indeed, in a number of cases, had they had to rely on their own stocks, might well have had to slow down or cease production as consumer holdings, generally speaking, were not at a high level. The existence of consignment stocks at a number of works, however, proved a valuable aid in this time of crisis and in fact there is little evidence that fabricating and manufacturing operations were seriously affected.

Some discussions were held with the British Government over the possibility of metal being released or loaned from Government stocks to tide over the difficult situation, but the authorities decided not to take such action although whether they would have been prepared to maintain this view had employment been

By L. H. TARRING

London, England

seriously threatened is perhaps still open to question.

A number of fabricating plants had to concentrate on home trade production for a time owing to the accumulation of material awaiting export either at the docks or in their own warehouses. In the circumstances, it was hardly surprising that prices which had receded to £247 for forward and £257 10s for cash should harden, especially in the near position, and by October 28 cash was up to £282 and there was a backwardation of £21 10s a ton.

With the resumption of work at the docks — it can hardly be called a settlement of the strike as the matters in dispute still remain to be re-

solved by negotiations — prices eased a little but the market certainly cannot be said to be weak. To add to the anxieties of British consumers a general strike was threatened in Northern Rhodesia at the beginning of November, but fortunately this has not materialized but the labor situation there is still by no means stable. The Forster Report on the advancement of Africans in the Copperbelt has been accepted by the companies concerned but has not found very much favor with either the European or the native trade unions, and this thorny problem seems a long way from settlement and may give rise to further unrest.

Demand for copper and brass semis remains at quite a high level, helped by the fact that the motor car trade here is booming and the building industry is also running at a high rate. With Chile apparently out of the market until the new year and U. S. consumers having to borrow metal from the stockpile to meet their current

## U. K. COPPER STATISTICS

The British Bureau of Non-Ferrous Metal Statistics reports U. K. stocks at the end of August as 77,323 tons compared with 67,307 tons at the end of July. Of the August figure 23,472 tons were blister and 53,851 tons refined (20,512 tons and 33,339 tons respectively the previous month). Consumers held 29,169 tons refined; stocks in L. M. E. warehouses accounted for 175 tons blister and 1,736 tons refined, and other stocks 23,297 tons blister and 22,946 tons refined. Production during the month of primary refined amounted to 10,498 tons (10,499 tons), that of secondary blister was 581 tons (731 tons), and secondary refined 5,767 tons (6,368 tons). Consumption was lower at 39,961 tons compared with 42,417 tons in July.

The following figures show output of main copper and alloy products during August in long tons:

	Copper Content of Output		
	Aug. 1954	January-August 1953	1954
<b>UNALLOYED COPPER PRODUCTS</b>			
Wire .....	13,347	90,527	111,957

Rods, Bars and Sections .....	1,844	7,714	15,502
Sheet, Strip and Plate .....	3,874	26,744	87,269
Tubes .....	3,048	23,723	29,149
Castings and Misc. ....	500	4,000	4,000

## ALLOYED COPPER PRODUCTS

Wire .....	813	5,286	7,844
Rods, Bars and Sections .....	5,290	34,919	50,514
Sheet, Strip and Plate .....	6,077	44,335	54,966
Tubes .....	877	8,098	8,384
Castings and Misc. ....	3,752	24,923	32,177
Copper Sulphate ....	539	8,105	8,451

Total All Products.. 39,961 278,374 360,213

of which:			
Consumption of Refined Copper ..	28,741	195,364	271,012
Consumption of Copper and Alloy Scrap (Copper Content) .....	11,220	83,010	89,201



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requirements, it is not readily perceptible how the supply situation can ease materially in the near future. Stocks in the U. K. — both those held by consumers and those in London Metal Exchange official warehouses — have been heavily drawn upon and there is a dangerously small reserve of metal in this country (apart from Government holdings) at the present time.

#### Little Change In Tin

During the past month tin prices have fluctuated over a range of about £10 a ton but on balance there is very little change in the position and this is a true reflection of the state of the tin market.

Consumption is running steadily at recent levels, with good prospects of the main consuming trade, such as tinplates and alloys maintaining or slightly improving upon, the present level. However, supplies for industrial requirements appear to be quite adequate although there is little evidence of surplus tin likely to press on the market.

There is still no definite indication that the international control agreement will be implemented but the general expectation remains that the signatory countries will ratify the agreement and that it will be put into operation, probably about the Spring of 1955.

It has been suggested that as time goes on the rather higher rate of

#### U. K. LEAD STATISTICS

According to the British Bureau of Non-Ferrous Metal Statistics U. K. stocks of lead at the end of August were lower at 26,295 tons compared with 29,498 tons at the end of July.

The following figures show consumption of lead by main trades, in long tons:

	Aug.	January-August
Cable making .....	6,180	53,252
Battery (excluding oxides) .....	2,392	17,896
Oxides and Compounds:		
Battery .....	2,049	14,537
Other uses .....	3,121	19,065
White Lead .....	1,071	6,915
Sheet and Pipe .....	6,194	45,429
Shot .....	372	2,887
Foil and Collapsible Tubes .....	285	2,009
Solder .....	885	6,482
All other alloys .....	1,216	7,392
Misc. uses .....	1,906	10,163
Total Consumption ..	25,671	194,373

of which:

Imported Virgin Lead	12,910	97,216	124,566
English Refined	7,012	43,132	41,832
Scrap, including remelted	5,749	54,025	49,337

#### U. K. TIN STATISTICS

The British Bureau of Non-Ferrous Metal Statistics reports U. K. stocks of tin at the end of August as 4,182 tons compared with 3,823 tons at the end of July.

The following figures show consumption of tin by main trades, in long tons:

	Aug.	January-August
Tinplate .....	535	5,695
Tinning .....	119	814
Solder .....	138	921
Alloys .....	407	3,502
Wrought tin .....	47	390
Chemicals .....	70	433
Other uses .....	12	70
Total All Trades ..	1,328	11,825

Malayan output of recent months is likely to be fully offset by smaller shipments from Bolivia but time alone can prove whether this is an accurate prediction. Expectations that Bolivian production would fall fairly rapidly following nationalization of the tin mines there were not fulfilled but the balance of expert opinion on this side still favors the view that Bolivian output will not be maintained at the 1953 level. Owing to the fact that U. K. smelters had reasonable stocks of ore and also to the fact that Liverpool was not affected by the dock strike until after the stoppage in London, tin supplies were not noticeably interfered with.

#### Strikes Hit Lead Worse

The widespread dock strikes in the U. K. during October probably affected lead rather worse than any of the other metals. Consumers generally were carrying very small stocks when the strikes began and the situation was aggravated by the fact that something like 6,000 tons of lead bullion from Australia for refining at the Britannia Lead Co.'s plant were held up, or diverted to the Continent, and the refinery had to cease operations — to the discomfiture of some of its customers.

On the Metal Exchange the back-wardation widened appreciably under the stimulus of consumer demand for early metal while spot English refined lead was traded at substantial premiums over the October quotation, upwards of £5 a ton being paid on occasion. How soon a reasonable supply position here can be restored is impossible to tell at the present time as there does not seem to be much surplus lead about in the world, especially as Russia still seems to be a buyer on a fair scale.

The continuance of acquisitions of

lead by the American stockpile, coupled with a general improvement in American industrial activity, has led to the belief here that the 15-cent U. S. price will be at least maintained for some time to come; in which case there seems nothing to indicate that quotations on this side of the Atlantic are likely to suffer much of a setback especially if, as seems possible, consumers will now decide to rebuild their stocks to a rather higher level than those existing prior to the dock strikes.

#### Zinc Market Steady

Despite the serious interruption to imports into the U. K. during October the zinc market here has pursued a pretty steady course, the zinc supply position at the outbreak of the strike being a fairly comfortable one.

The interruption to imports did not cause any major difficulties among consumers and although a slight back-wardation appeared for a time in Metal Exchange quotations there is no evidence that users found any great difficulty in satisfying their needs. The general level of consumption is quite well maintained, the brass, galvanizing and diecasting industries all being busy at the present time.

It is generally assumed that the taking up of metal by the American stockpile, together with a rising trend in business activity in the United States, will gradually strengthen the world statistical position of zinc, but it must be confessed that for the time being sentiment here is not particularly bullish.

#### U. K. ZINC STATISTICS

The British Bureau of Non-Ferrous Metal Statistics reports U. K. stocks of zinc at the end of August as 48,769 tons compared with 45,825 tons the previous month.

	Aug.	January-August
Brass .....	7,516	51,317
Galvanizing .....	7,276	55,225
of which:		
General .....	2,452	20,726
Sheet .....	2,321	16,444
Wire .....	1,579	9,508
Tube .....	924	8,547
Rolled zinc .....	1,645	13,148
Zinc oxide .....	1,714	14,742
Zinc alloy diecasting ..	2,293	14,637
Zinc dust .....	694	5,439
Misc. uses .....	964	7,661
Total All Trades ..	22,102	162,169

of which:

Virgin metal	16,124	133,328	151,843
Secondary	5,978	48,840	56,475

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# ADDITIONAL COPPER MADE AVAILABLE BY U. S. BUT SUPPLY TIGHT; PRICE STEADY DESPITE PRESSURES

## GSA Buys More Lead, Zinc for Stockpile at Current Market Levels; Tin Weaker; Quicksilver Declines; Aluminum Output Up in Quarter

November 11, 1954

**P**RICES for the major metals were unchanged during the month in review despite pressure on copper for an advance. Producers and custom smelters continued to make domestic sales of copper at 30.00c a pound delivered although there were persistent rumors the price would be advanced. Additional copper was made available by the Government to private industry.

Lead and zinc prices were maintained, with the Government again buying both metals for the stockpile at current market prices; 15.00c New York for lead and 11.50c East St. Louis for Prime Western zinc.

Tin during the month weakened and it appeared the anticipated decline in quicksilver was under way.

### Copper Supply Tight

The domestic copper supply remained tight, and the wrong interpretation of several facts gave rise to rumors that the domestic price would be advanced. Chilean copper was moving to other markets because of more attractive prices and the price on the London Metal Exchange was slightly better than 35.00c a pound. A check of producers and custom smelters showed no basis for the price-rise rumors prevalent the last few days, which appeared to be founded on the following:

1 — European consumers buying Chilean copper from producing interests in that country were reported to have paid 31.75c f. o. b. Antofagasta for fire refined for shipment in the first quarter, 1955, and that they purchased refined copper from the same suppliers at 33.00c f. o. b. Antofagasta for December shipment.

2 — Some custom smelters here paid as high as 27.50c a pound for No. 2 heavy copper and wire scrap, which would bring the price for the resulting electro to 32.00c f. o. b. refinery. The inference was that smelters, to break even, would have

### LATE DEVELOPMENTS, CHANGES

**Copper:** October statistics disclosed refined copper stocks had declined to a record low of 32,515 tons at the end of the month. Stocks were down 15,151 tons from the end of September and statistics going back for years failed to reveal any total as low. Deliveries were tentatively higher, at 97,552 tons as against 89,198 in September. Refined output was 92,258 tons against 87,874 tons in September. Stocks were considered to be at an irreducible minimum and any mechanical difficulties at refineries might result in a really serious situation.

**Battery Plates:** The smelting charge for plates was increased to a flat \$65 a ton on November 12, from the previous range of \$62.50 to \$65. Smelters indicated they were seeking to balance the intake of plates against slow sales of antimonial lead.

**Tin:** Spot Straits tin was quoted at 90.875c a pound at New York on November 16. Prompt Straits also was quoted at 90.875c.

to sell the refined metal at 32.00c a pound or more.

While consumers abroad may have and likely are paying 33.00c a pound and even more for Chilean copper, the Chilean copper disposed of in the U. S. is sold on the same basis as the producers sell their domestic output, namely the price prevailing on the date of shipment, and thus far that price has been 30.00c and likely to remain at that level.

Custom smelters paying 27.00c and 27.50c for No. 2 copper scrap will probably sell the resulting refined copper in the export market and get 32.00c a pound or more for it. Besides, some of this scrap was being refined on a toll basis for consumers who were finding it cheaper to pay a higher price for scrap than the still higher prices being asked in the open market for refined copper.

### Export Business Good

Copper exporters have been doing a good volume of business. If more nearby metal were available, the turnover each day would be much larger than it is. January copper has sold at 33.50c, February at 33.00c, and March at 32.50c, f. a. s. New York.

It is possible that dual prices may develop in copper, a world quotation and the domestic price.

Trade quarters were keeping a sharp eye on labor developments in Rhodesia, third largest producer of copper in the world. Roan Antelope and Mufulira Copper Mines on November 4 gave six months' notice of contract termination to the Northern Rhodesia European Mine Workers' union as a result of the dispute over advancement of African employees. At

the Mufulira branch of the European workers' union, the workers placed a ban on overtime as a protest against the notice of contract termination. Whether the union will resort to a strike one time will tell.

The large domestic producers are evaluating their potential December supply and while the tonnages will be somewhat larger than in November, nevertheless it will be insufficient to meet consumers' requests. It is therefore probable that the Business and Defense Services Administration will have to release the copper that was deferred from the stockpile and from delivery to the DPA inventory. The Office of Defense Mobilization permitted the deferment of 25,000 tons for November and December, and the BDSA has been speculating as to whether it will be necessary to release copper to consumers next month.

### Labor Picture

Labor peace in the Utah copper industry is assured until August 31, 1955, now that new contracts have been signed between the CIO United Steelworkers of America and the American Smelting and Refining Co. and Kennecott Copper Corp. The settlement has been ratified by workers at the AS&R Garfield plant and the Kennecott refinery at Garfield. The workers walked out on September 13 and 14 and returned to their jobs on October 13 while negotiations were continued between the companies, the union and a Federal fact-finding board.

### Chilean Copper Monopoly

Although the Chilean Chamber of Deputies voted to set up a Government monopoly for copper sales, it is not believed that legislation to this effect will be enacted into law, according to reports from Santiago.

Meanwhile, on November 10, the Chilean Government devalued the general commercial rate of the Chilean peso from 110 to 200 for one dollar. Though information is not clear here, it is understood that the copper companies, including the big U. S. firms in Chile will still have to convert their dollars to pesos at the old rates — partly at 19.37 pesos for the dollar and partly at 110 pesos for the dollar. There is now a bill before the Chilean legislature which would eliminate the 19.37 rate and permit all copper companies to exchange the dol-

(Continued on page 16)



## U. S. Metal Review

(Continued from page 15)

lars they get from selling Chilean copper for pesos at the rate of 110 pesos to the dollar. Passage of the bill will improve the position of the copper companies in Chile, including the American firms there.

### GSA Buys Lead, Zinc

The General Services Administration made further purchase of lead and zinc domestically mined after April 15, 1954. The GSA latest requests for tenders called for submission of bids on November 2, with delivery to the stockpile to be made by January 15, 1955. Indications were that the GSA purchased 10,000 tons of lead and between 12,000 and 15,000 tons of zinc.

In the domestic market lead producers were doing a moderate volume of business. Some consumers were beginning to show interest in December metal, and where such inquiries resulted in sales they were made chiefly at the December average.

### Zinc Buying Limited

The bullish zinc statistics for October thus far failed to exert any great influence on consumers' buying

habits. Most consumers were still limiting their purchases to nearby needs and were following their established pricing practices, buying at the established price or at the monthly average.

The October statistics revealed a big increase in domestic shipments, a big drop in producers' stocks, a gain in unfilled orders on producers' books and only a slight increase in output. The shipments at 78,867 tons were the largest for any month since December 1952, and 14,319 tons more than in September. At the end of October, producers' stocks were 152,137 tons, a drop of 23,368 tons from September. Unfilled orders were 51,559 tons at the end of October, an increase of 2,741 tons over the previous month. Production totaled 67,032 tons in October against 60,117 tons in September.

### Tin Prices Weaker

Domestic tin prices have slumped during the month in review. Since the impression among domestic tin importers had been that the recent domestic decline in price had been overdone, lower prices at Singapore at this writing were a distinct surprise.

Spot Straits tin at New York on November 10 was 90.00c a pound as against the last quoted price in this space of 93.00c on October 18. For

the November 10-October 18 period, the high of 93.125c for spot was registered on October 21 and the low point was the 90.00c figure for November 10.

### Quicksilver Lower

Spot European quicksilver on November 10 was available at \$320 per flask of 76 pounds, as against the last previous and record-setting range of \$328-\$331 quoted in this space. The spot price moved down in easy stages to the \$320 level during early November. While the spot supply situation was still tight, more metal appeared to be available with demand remaining sluggish.

### Primary Aluminum Output

Although primary aluminum production in September declined from the previous month, output in the third quarter of this year set a new all-time quarterly high of 743,581,012 pounds. September output was 240,664,643 pounds as against 250,592,575 pounds in August.

Primary aluminum was unchanged at 22.20c a pound, f. o. b. for the 30-pound 99 per cent plus ingot. Secondary aluminum ingot prices edged upwards, about 0.25c a pound.

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**NATIONAL BUSINESS PRESS**

**425 West 25th Street, New York 1, N. Y.**



# Daily Metal Quotations in October, 1954

The following quotations are taken from the Daily Metal Reporter  
(In Cents Per Pound)

	Copper				Tin Straits New York		Lead		Zinc		Alum- inum		Anti- mony		Silver			
	Producers' Price	Del. Conn.	Customers' or Smelters' Outside Price	Electro Refinery F. o. b.	Lake Del.	Average Electrolytic Export Price F. o. b. N. Y.	Spot	Prompt	New York	Outside St. Louis	Prime West. F. o. b.	Del. N. Y.	Brass Spec. F. St. Louis	High Grade Delivered	Spec. High Grade Delivered	Virgin 99%	Domestic Spot 99.5% F. o. b. Laredo	(Cents Per Ounce) New York
October																		
1	30.00	30.00	30.00	29.70	30.00	32.50	93.25	93.25	14.75	14.55	11.50	12.00	11.75	12.85	13.00	22.20	28.50	85.25
2	30.00	30.00	30.00	29.70	30.00	32.50	93.25	93.25	14.75	14.55	11.50	12.00	11.75	12.85	13.00	22.20	28.50	85.25
4	30.00	30.00	30.00	29.70	30.00	34.00	93.25	93.25	14.875	14.675	11.50	12.00	11.75	12.85	13.00	22.20	28.50	85.25
5	30.00	30.00	30.00	29.70	30.00	34.00	95.25	Nom.	15.00	14.80	11.50	12.00	11.75	12.85	13.00	22.20	28.50	85.25
6	30.00	30.00	30.00	29.70	30.00	34.00	93.25	93.25	15.00	14.80	11.50	12.00	11.75	12.85	13.00	22.20	28.50	85.25
7	30.00	30.00	30.00	29.70	30.00	34.00	93.375	93.375	15.00	14.80	11.50	12.00	11.75	12.85	13.00	22.20	28.50	85.25
8	30.00	30.00	30.00	29.70	30.00	34.00	93.625	93.625	15.00	14.80	11.50	12.00	11.75	12.85	13.00	22.20	28.50	85.25
9	30.00	30.00	30.00	29.70	30.00	34.00	93.625	93.625	15.00	14.80	11.50	12.00	11.75	12.85	13.00	22.20	28.50	85.25
11	30.00	30.00	30.00	29.70	30.00	34.00	93.375	93.375	15.00	14.80	11.50	12.00	11.75	12.85	13.00	22.20	28.50	85.25
13	30.00	30.00	30.00	29.70	30.00	34.00	93.50	93.50	15.00	14.80	11.50	12.00	11.75	12.85	13.00	22.20	28.50	85.25
14	30.00	30.00	30.00	29.70	30.00	34.00	93.50	93.50	15.00	14.80	11.50	12.00	11.75	12.85	13.00	22.20	28.50	85.25
15	30.00	30.00	30.00	29.70	30.00	34.00	93.25	93.25	15.00	14.80	11.50	12.00	11.75	12.85	13.00	22.20	28.50	85.25
16	30.00	30.00	30.00	29.70	30.00	34.00	93.25	93.25	15.00	14.80	11.50	12.00	11.75	12.85	13.00	22.20	28.50	85.25
18	30.00	30.00	30.00	29.70	30.00	34.00	93.00	93.00	15.00	14.80	11.50	12.00	11.75	12.85	13.00	22.20	28.50	85.25
19	30.00	30.00	30.00	29.70	30.00	32.50	93.00	93.00	15.00	14.80	11.50	12.00	11.75	12.85	13.00	22.20	28.50	85.25
20	30.00	30.00	30.00	29.70	30.00	32.50	93.00	92.875	15.00	14.80	11.50	12.00	11.75	12.85	13.00	22.20	28.50	85.25
21	30.00	30.00	30.00	29.70	30.00	32.50	93.125	93.125	15.00	14.80	11.50	12.00	11.75	12.85	13.00	22.20	28.50	85.25
22	30.00	30.00	30.00	29.70	30.00	32.50	93.00	92.75	15.00	14.80	11.50	12.00	11.75	12.85	13.00	22.20	28.50	85.25
23	30.00	30.00	30.00	29.70	30.00	32.50	92.75	92.75	15.00	14.80	11.50	12.00	11.75	12.85	13.00	22.20	28.50	85.25
25	30.00	30.00	30.00	29.70	30.00	32.50	92.625	92.625	15.00	14.80	11.50	12.00	11.75	12.85	13.00	22.20	28.50	85.25
26	30.00	30.00	30.00	29.70	30.00	32.50	92.50	92.375	15.00	14.80	11.50	12.00	11.75	12.85	13.00	22.20	28.50	85.25
27	30.00	30.00	30.00	29.70	30.00	32.50	92.50	92.375	15.00	14.80	11.50	12.00	11.75	12.85	13.00	22.20	28.50	85.25
28	30.00	30.00	30.00	29.70	30.00	32.50	92.50	92.375	15.00	14.80	11.50	12.00	11.75	12.85	13.00	22.20	28.50	85.25
29	30.00	30.00	30.00	29.70	30.00	32.50	93.375	92.25	15.00	14.80	11.50	12.00	11.75	12.85	13.00	22.20	28.50	85.25
30	30.00	30.00	30.00	29.70	30.00	32.50	93.375	92.25	15.00	14.80	11.50	12.00	11.75	12.85	13.00	22.20	28.50	85.25
AV.	30.00	30.00	30.00	29.70	30.00	33.22	93.225	93.00	14.975	14.775	11.50	12.00	11.75	12.85	13.00	22.20	28.50	85.25
HL	30.00	30.00	30.00	29.70	30.00	35.00	95.25	93.625	15.00	14.80	11.50	12.00	11.75	12.85	13.00	22.20	28.50	85.25
LO	30.00	30.00	30.00	29.70	30.00	32.00	92.50	92.25	14.75	14.55	11.50	12.00	11.75	12.85	13.00	22.20	28.50	85.25

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### DAILY METAL REPORTER

425 West 25th Street

New York 1, N. Y.

## **\$5.3 Billion Of Stockpile Metals Held Or On Order**

(Continued from page 9)

erals and metals in exchange for this country's surplus agricultural products.

One of the major problems that is now coming in for an ever increasing share of attention is the necessity for maintaining the nation's mobilization base. In the years 1951 through 1953 the major problem was to expand supplies of metals and minerals sufficiently to meet defense needs, to minimize rationing, allocations, and other controls, and to complete the national stockpile as quickly as possible. In this endeavor the mining industry responded wholeheartedly. As we move into the future it is becoming increasingly evident efforts will have to be made by industry and government to maintain the productive capacity that was created during the earlier years. Accordingly, with the assistance of the Department of the Interior, which is our delegate agency for matters dealing with metals and minerals, we are currently working to define the necessary levels of domestic production that should be maintained in peacetime in order to ensure a rapid and orderly transition to the production of materials for defense. No doubt there will be cases where some form of government assistance may be required to maintain essential components of the mobilization base during periods of lowered economic activity. It is possible that the Congress may decide to strengthen the Defense Production Act in this respect when it considers the need for modification and extension in early 1955.

### **Handling Of Stockpile**

We are working with the Department of Interior to ensure that wartime mobilization plans give adequate recognition to the importance of the domestic mineral industry. We must be sure that key technicians and skilled mining labor force members are indiscriminately drafted into the service.

I believe it worth while to take a few more minutes to give you some information regarding the physical handling of the stockpile. As you gentlemen well realize, the job is not completed with the acquisition of the stockpile. There is a great responsibility for storage and safekeeping. Located with regard to transportation and consuming industries are of great importance. Many of the items require special handling and care. Some deteriorate with time, such as

rubber, abaca, sisal and oils; in these cases rotation plans are in effect which require close cooperation with industry. The storage and handling costs run up to a tidy sum. These facts may be of interest. About 66,000,000 square feet of storage space are now required. This breaks down to about 42,000,000 square feet of open storage and 24,000,000 square feet of storage space under cover. Figuring the Pentagon at about 6,500,000 square feet of floor space, it would take ten Pentagons to store all of the stockpile inventories. Two million barrels of tankage is required to store the oils. The total storage is scattered across the country in more than 300 different locations.

### **Encouraged By Progress**

In closing, I am pleased to say that we in ODM are greatly encouraged with the progress being made in the acquisition of strategic and critical materials in preparation for another emergency. We pray God that these materials never have their intended use. During World War II and the Korean action our metals and minerals economy was greatly upset. In each case the return from the peak effort to a peacetime level left many scars. If another emergency is thrust upon us, it is our hope that the metals and minerals in the stockpile will make it possible to maintain the economy on a reasonable basis. We hope we can get by without exerting great pressures to open up uneconomic and high cost operations. If this theory works, then the country can avoid the headaches and tribulations resulting from another transition from unprecedented demands to a peacetime economy.

I have attempted in the limited time available to review for you what the Office of Defense Mobilization is doing to carry out its mobilization policies in relation to mining and I sincerely hope this paper has been of some interest and value. Do not hesitate to call on us regarding any problem where you think we might be able to help. Your work and our work should have a common result — the building of a stronger nation, better able to maintain through the years its security and its freedom.

## **Copper Scrap Exports 17% Of U. S. Use In First 6 Months**

(Continued from page 12)

tion and the plant of consumption. They contain 25 to 50 per cent of oxygen and other impurities, which add to the freight cost.

Nonferrous scrap metal consumers'

plants operated in general at a lower level in the first half of 1954 than for several years. In the cases of the aluminum, zinc, and lead secondary smelters, measures taken by the Department of Commerce should alleviate difficulties without greatly inconveniencing scrap exporters. Consumption of scrap by copper-scrap consumers shows an upward trend, which probably will continue and also become evident in operations of the other secondary smelters. The trend may be accentuated if there is an explosive change in the present calm, but tense international situation.

## **Washington Report**

(Continued from page 5)

looking to the refinement of titanium production techniques.

### **Machine Tool Program**

ODM also disclosed it expects to launch a \$40,000,000 purchasing program for so-called "elephant" tools "very shortly." Such tools are those needed to manufacture other larger machine tools. Defense Mobilizer Flemming said the Defense Department would begin awarding contracts for its \$100,000,000 machine tool stockpiling scheme shortly.

### **Scrap Iron Exports**

Of interest to both consumers and sellers of scrap iron and steel was a proposed scrap iron export formula being studied by the Commerce Department. The export formula, submitted by a Task Force of the BDSA, ties export shipments to the steel production rate.

### **New BDSA Division Heads**

The appointment of Ethan M. Pendleton, vice president of The American Brass Co., as director of the Copper Division, BDSA, Commerce Department, was announced by BDSA Administrator Charles F. Honeywell. Mr. Pendleton succeeds David F. Snow, who has returned to his position as district sales manager for the Bridgeport Brass Co.

Howard J. Mullin, manager of sales for the St. Louis district, U. S. Steel Corp., was named chairman of the Iron & Steel Division by BDSA Chief Honeywell. Mr. Mullin replaces William Kerber, vice president of Great Lakes Steel Corp. and Hanna Furnace Corp., both subsidiaries of National Steel Corp.

### **Increase Copper Set-Aside**

"Secondary" defense contractors will get an increase of some 4,200 tons in their rations of copper and copper-base alloys in the first quarter of 1955. BDSA said the increase "reflects changes in military orders, with increased requirements for some products slightly offsetting decreases in others."



# Copper Statistics Reported by Copper Institute

## Combined Totals in U. S. A. and Outside U. S. A.

(In tons of 2,000 pounds)

	Crude Production		Refined	Deliveries to	Refined Stock	Stock Increases or Decreases		
	Primary	Secondary	Production	Customers	End of Period	Blister	Refined	Total
1951 Total ..	2,343,422	62,270	2,424,802	2,381,237	223,731	-19,110	+34,772	+15,662
1952 Total ..	2,362,887	55,858	2,385,538	2,451,093				
1953								
Oct. ....	197,840	11,083	218,770	180,777	342,984	-9,847	+33,741	+23,894
Nov. ....	180,169	6,541	198,239	180,917	354,370	-11,529	+11,386	-143
Dec. ....	197,287	10,930	221,823	199,202	369,723	-11,945	+15,353	+3,408
1953 Total ..	2,397,540	123,210	2,514,969	2,275,060	369,723	+7,836	+180,762	+188,598
1954								
Jan. ....	191,564	7,835	196,653	169,386	388,631	+2,746	+20,389	+23,135
Feb. ....	177,075	7,096	174,360	163,474	393,792	+9,811	+5,161	+14,972
Mar. ....	196,870	8,254	211,370	189,030	405,563	-6,241	+11,771	+5,525
April ....	195,823	6,662	200,364	203,772	397,593	+2,121	-7,970	-5,849
May ....	189,670	6,922	203,967	226,202	337,345	+7,375	-60,248	-67,623
June ....	198,616	11,482	200,736	236,575	249,832	+9,362	-87,513	-78,151
July ....	196,588	9,955	212,922	202,717	239,479	+6,379	-10,353	-16,732
Aug. ....	175,481	9,585	204,338	195,880	230,713	-19,272	-8,766	-28,038
Sept. ....	185,985	7,674	195,363	199,432	219,714	-704	-10,999	-11,703
Oct. ....	208,177	10,212	196,654	212,486	210,432	+21,735	-9,282	+12,453

### In U. S. A.

1951 Total ..	964,589	56,910	1,199,784	1,367,787	71,528	.....	+22,488	.....
1952 Total ..	961,886	46,003	1,189,112	1,445,765				
1953								
Oct. ....	83,433	9,002	126,138	110,513	84,303	.....	+11,396	.....
Nov. ....	79,934	5,790	119,230	100,908	93,274	.....	+8,971	.....
Dec. ....	78,500	10,232	123,296	112,244	89,193	.....	+4,081	.....
1953 Total ..	957,434	109,972	1,395,003	1,443,719	89,193	.....	+30,335	.....
1954								
Jan. ....	76,912	7,304	111,555	77,091	108,121	.....	+20,409	.....
Feb. ....	68,034	6,394	103,496	87,795	118,417	.....	+10,296	.....
March ....	73,429	7,671	117,546	95,795	125,759	.....	+7,342	.....
April ....	70,977	6,486	112,617	104,579	124,523	.....	-1,236	.....
May ....	71,571	6,660	108,403	111,005	82,111	.....	-42,412	.....
June ....	74,113	11,216	112,121	106,252	69,181	.....	-12,930	.....
July ....	66,070	9,597	107,095	97,436	68,921	.....	-260	.....
Aug. ....	52,825	8,784	103,901	92,475	58,387	.....	-10,534	.....
Sept. ....	61,827	7,168	87,874	88,198	47,666	.....	-10,721	.....
Oct. ....	68,521	9,862	92,258	105,293	32,515	.....	-15,151	.....

### Outside U. S. A.

1951 Total ..	1,378,883	5,360	1,225,018	1,013,450	152,203	.....	+12,284	.....
1952 Total ..	1,401,001	9,582	1,196,426	1,005,329				
1953								
Oct. ....	114,407	2,081	92,632	70,258	258,681	.....	+22,345	.....
Nov. ....	100,235	751	79,009	80,009	280,530	.....	+19,434	.....
Dec. ....	120,448	698	98,527	86,958	261,096	.....	+2,415	.....
1953 Total ..	1,441,874	13,238	1,119,966	831,341	280,530	.....	+150,427	.....
1954								
Jan. ....	114,652	531	85,100	91,941	280,510	.....	-20	.....
Feb. ....	109,041	702	70,864	74,457	275,375	.....	+5,135	.....
Mar. ....	123,441	583	93,824	93,235	279,804	.....	+4,429	.....
April ....	124,846	176	87,747	99,193	273,070	.....	-6,734	.....
May ....	118,099	262	95,564	115,197	255,234	.....	-17,836	.....
June ....	124,503	266	88,615	130,323	180,651	.....	-74,583	.....
July ....	130,518	358	105,827	105,781	170,558	.....	-10,093	.....
Aug. ....	122,656	801	100,437	103,405	172,326	.....	+1,768	.....
Sept. ....	125,158	506	107,489	110,234	172,048	.....	-278	.....
Oct. ....	139,656	350	104,396	107,193	177,917	.....	+5,869	.....

\*Excluding Russia, Yugoslavia, Norway, Sweden, Japan, Australia.

### Electrolytic Copper

	Price, Del. Conn. Valley Monthly Average Prices (Cents Per Pound)			
	1951	1952	1953	1954
Jan. ....	24.50	24.50	24.50	29.88
Feb. ....	24.50	24.50	25.46	29.88
Mar. ....	24.50	24.50	31.49	29.93
Apr. ....	24.50	24.50	30.59	29.98
May ....	25.31	27.829	29.72	30.00
June ....	24.50	24.50	29.94	30.00
July ....	24.50	24.50	29.92	30.00
Aug. ....	24.50	24.50	29.69	30.00
Sept. ....	24.50	24.50	29.75	30.00
Oct. ....	24.50	24.50	29.80	30.00
Nov. ....	24.50	24.50	29.88	.....
Dec. ....	24.50	24.50	29.88	.....
Aver. ....	24.50	24.50	29.15	.....

### Lake Copper

	Producers' Price, Delivered Monthly Average Prices (Cents Per Pound)			
	1951	1952	1953	1954
Jan. ....	24.625	24.625	24.625	30.00
Feb. ....	24.625	24.625	24.625	30.00
Mar. ....	24.625	24.625	32.00	30.00
Apr. ....	24.625	24.625	32.23	30.00
May ....	24.625	24.625	Nom	30.00
June ....	24.625	24.625	30.125	30.00
July ....	24.625	24.625	30.125	30.00
Aug. ....	24.625	24.625	30.125	30.00
Sept. ....	24.625	24.625	30.125	30.00
Oct. ....	24.625	24.625	30.125	30.00
Nov. ....	24.625	24.625	30.125	.....
Dec. ....	24.625	24.625	30.038	.....
Aver. ....	24.625	24.625	29.47	.....

### Export Copper

	Electrolytic f.a.s. New York Monthly Average Prices (Cents Per Pound)			
	1951	1952	1953	1954
Jan. ....	24.50	27.50	34.825	28.635
Feb. ....	24.50	27.50	34.825	28.59
Mar. ....	24.50	27.50	35.131	29.544
Apr. ....	24.50	27.50	35.89	29.93
May ....	24.50	24.50	29.89	30.00
June ....	27.50	34.415	29.75	30.00
July ....	27.50	34.537	29.692	30.00
Aug. ....	27.50	34.825	29.075	30.00
Sept. ....	27.50	34.825	29.00	30.80
Oct. ....	27.50	34.825	29.053	33.22
Nov. ....	27.50	34.825	28.875	.....
Dec. ....	27.50	34.825	28.774	.....
Aver. ....	26.318	31.742	31.218	.....



## Fabricators' Copper Statistics

(In Tons of 2,000 Pounds)

	Fabricators' Stocks of Refined Cop.	Unfilled Purchases of Refined by Fab. from Producers	Fabricators' Working Stocks	Unfilled Sales by Fabricators to Customers	Actual Copper Consumed by Fabricators	Excess Fabricators' Stocks Over Orders Bkd.
1948						
Total	.....	.....	.....	.....	1,394,307	.....
1949						
Total	.....	.....	.....	.....	1,053,225	.....
1950						
Total	.....	.....	.....	.....	1,438,327	.....
1951						
Total	.....	.....	.....	.....	1,392,111	.....
1952						
Apr.	256,798	39,834	288,673	318,198	196,109	-310,239
May	240,962	41,135	289,822	304,639	109,890	-312,364
June	245,730	39,513	286,576	299,124	107,709	-300,457
July	281,064	53,716	293,220	303,765	82,419	-262,205
Aug.	298,849	50,399	287,512	294,280	119,280	-232,544
Sept.	308,036	47,188	295,275	285,465	122,934	-225,516
Oct.	311,676	45,970	290,634	285,114	125,325	-218,102
Nov.	315,608	33,710	292,028	280,716	130,031	-223,426
Dec.	333,455	32,652	292,157	275,312	117,303	-201,352
Total	.....	.....	.....	.....	1,389,451	.....
1953						
Jan.	321,212	43,195	294,467	275,736	134,203	-205,796
Feb.	312,177	52,990	290,367	296,760	123,850	-221,960
Mar.	319,356	47,685	292,447	291,979	122,980	-217,385
Apr.	342,771	53,501	295,096	298,532	116,319	-197,356
May	364,197	49,952	293,794	285,425	126,972	-165,070
June	363,020	40,759	297,387	268,099	132,615	-161,707
July	375,629	39,936	302,113	259,641	91,826	-146,189
Aug.	366,244	42,490	305,204	235,893	113,250	-132,363
Sept.	358,081	38,593	307,612	206,476	111,805	-117,414
Oct.	352,091	31,035	305,431	187,438	116,259	-109,743
Nov.	350,804	34,380	305,877	165,047	102,258	-85,740
Dec.	380,881	25,022	309,664	170,917	83,652	-74,678
Total	.....	.....	.....	.....	1,375,869	.....
1954						
Jan.	355,632	26,423	307,014	142,588	100,805	-67,547
Feb.	349,661	26,227	305,670	122,999	94,975	-52,781
Mar.	341,693	28,836	304,065	123,887	103,796	-57,423
Apr.	341,616	30,677	302,391	124,559	104,943	-54,657
May	349,796	33,210	305,504	123,039	102,810	-45,537
June	351,518	43,723	304,833	122,218	104,531	-31,810
July	370,287	41,104	307,352	130,576	80,751	-26,537
Aug.	359,474	58,007	302,423	131,514	102,966	-16,456
Sept.	341,649	50,952	300,603	148,817	106,454	-56,819

## Scrap Copper Receipts by Custom Smelters and Refineries in United States\*

(In Short Tons)

	1945	1946	1947	1948	1949	1950	1951	1952	1953	1954
Jan.	3,247	3,077	7,080	10,172	17,084	15,763	6,640	4,528	6,486	9,859
Feb.	2,877	1,576	5,334	11,590	20,232	12,500	5,153	3,633	10,337	8,490
Mar.	4,398	2,116	9,187	11,954	20,678	13,538	7,912	5,243	19,991	9,738
Apr.	5,249	2,750	13,065	15,125	15,968	12,304	8,553	6,214	16,584	9,004
May	4,427	2,455	14,264	16,357	14,237	8,749	8,458	8,033	10,857	8,647
June	4,733	2,230	9,883	11,176	8,809	20,523	8,628	4,425	10,945	13,309
July	5,342	2,581	8,578	8,370	7,782	10,040	6,642	5,188	9,063	10,260
Aug.	5,353	2,117	8,572	17,081	8,246	10,452	6,113	5,003	7,137	10,100
Sept.	4,504	4,832	10,611	16,001	10,980	4,903	3,561	4,667	9,042	10,641
Oct.	4,615	2,932	8,532	10,854	6,401	9,459	3,336	4,602	10,065	11,662
Nov.	4,030	3,079	8,070	7,625	15,347	9,237	3,179	4,724	7,815	.....
Dec.	3,411	4,951	9,154	11,826	10,533	7,178	4,538	6,208	11,476	.....
Total	51,866	33,826	112,386	147,931	156,303	142,067	71,812	62,470	129,798	.....

\*As compiled by Copper Institute.

## Brass and Bronze Ingot Monthly Shipments

(Net Tons)

The following figures showing the combined shipments of ingot brass and bronze are compiled by the Ingot Brass and Bronze Industry and represent in excess of 95 per cent of the deliveries of the entire industry.

	1944	1945	1946	1947	1948	1949	1950	1951	1952	1953	1954
Jan.	43,569	41,021	29,196	27,841	26,998	19,456	18,874	28,416	28,315	24,423	20,661
Feb.	43,340	39,297	24,580	24,686	22,487	15,026	18,487	27,168	24,211	25,429	19,920
Mar.	45,068	41,988	27,176	27,477	24,282	14,550	22,494	31,997	28,890	28,256	23,653
Apr.	45,418	37,282	27,333	24,577	25,177	10,696	22,118	30,472	22,547	25,044	24,746
May	40,677	32,613	31,349	16,929	24,401	9,696	25,093	38,817	21,274	21,660	22,269
June	40,532	27,995	26,677	16,728	20,456	10,220	21,609	32,016	18,947	19,321	17,074
July	40,957	25,372	27,896	18,589	24,098	14,194	26,689	25,285	21,807	20,156	21,684
Aug.	38,333	20,165	27,390	19,025	23,641	16,208	28,811	22,285	22,770	21,463	22,464
Sept.	41,009	23,527	31,461	22,806	21,559	18,026	32,240	23,124	25,311	22,280	.....
Oct.	38,845	22,966	29,232	21,666	21,731	18,488	31,748	23,544	23,441	21,860	.....
Nov.	38,518	20,488	27,206	23,862	20,954	17,960	28,757	20,987	22,983	20,541	.....
Dec.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Total	496,412	372,812	339,724	263,711	279,500	176,643	303,563	332,878	277,736	271,251	.....
Aver.	41,365	31,608	28,310	21,976	23,292	14,637	25,297	27,615	23,145	22,604	.....

METALS, NOVEMBER, 1954

## Mine Production of Copper in United States

(U. S. Bureau of Mines)

		Eastern	Missouri	Western	Total
1949					
Ttl.	32,955	3,670	716,121	752,750	
1950					
Ttl.	40,105	2,982	866,250	885,942	
1951					
Ttl.	41,119	2,422	884,788	928,330	
1952					
Ttl.	36,758	1,726	885,985	924,469	
1953					
Aug.	3,049	146	72,386	75,581	
Sept.	3,029	199	72,214	75,442	
Oct.	3,604	219	76,146	80,005	
Nov.	3,043	180	71,942	75,165	
Dec.	3,482	170	73,367	77,019	
Ttl.	38,900	2,237	885,174	926,448	
1954					
Jan.	3,077	147	71,473	74,697	
Feb.	2,949	183	62,167	65,299	
Mar.	3,560	148	67,581	71,289	
Apr.	3,047	153	65,183	68,383	
May	3,136	141	68,147	71,423	
June	3,228	144	69,612	72,984	
July	2,976	129	63,462	66,567	
Aug.	2,954	145	48,637	51,736	
Sept.	3,465	145	58,702	62,312	

## Average Custom Smelters' Scrap Buying Prices

(Cents per pound del. refinery for 60,000 lbs. of each grade)

	No. 1 Copper Scrap	No. 2 Copper Scrap	Light Copper Scrap	Refinery Brass*
1953				
Aug.	22.08	20.58	19.08	17.06
Sept.	23.50	22.00	20.50	19.00
Oct.	23.875	22.192	20.692	19.00
Nov.	25.00	23.00	21.50	19.50
Dec.	24.46	22.73	21.23	19.50
Av.	33.955	20.405	20.855	20.036
1954				
Jan.	23.48	21.98	20.48	19.22
Feb.	24.00	22.50	21.00	20.00
Mar.	25.84	23.97	22.10	21.09
Apr.	26.42	24.92	23.42	21.77
May	27.04	25.54	24.04	22.58
June	27.125	25.625	24.125	22.875
July	27.09	25.59	24.09	22.93
Aug.	27.12	25.62	24.12	23.74
Sept.	27.51	26.01	24.51	24.62
Oct.	28.02	26.52	25.02	24.965

\*Of dry content for material having a dry copper content in excess of 60%.

## Brass Ingot Makers' Scrap Copper Buying Prices

(Average Prices)

(Cents per pound for carload lots del. consumers' works)

	No. 1 Copper Scrap	No. 2 Copper Scrap	No. 1 Composition	Heavy Yellow Brass
1953				
Aug.	21.35	20.51	17.86	12.57
Sept.	23.00	21.50	17.25	13.25
Oct.	24.096	22.692	17.481	13.163
Nov.	25.00	23.50	18.25	13.75
Dec.	24.77	22.15	18.17	13.67
Av.	23.524	21.934	18.862	14.127
1954				
Jan.	23.68	22.02	18.08	13.61
Feb.	24.50	23.00	17.75	13.50
Mar.	25.53	24.03	18.49	14.16
Apr.	26.39	24.89	20.02	15.35
May	27.03	25.53	21.50	16.50
June	27.01	25.51	21.50	16.50
July	26.90	25.38	21.40	16.69
Aug.	26.81	25.25	21.64	17.15
Sept.	27.01	25.51	21.85	17.35
Oct.	27.675	26.175	22.70	17.78

# United States Lead Statistics of Primary Refineries

(American Bureau of Metal Statistics)  
(In tons of 2,000 lbs.)

	Stock At Beginning	Production Primary & Secondary	Total Supply	Stock At End	Domestic Shipments
1948 .....	21,328	511,356	532,684	38,644	490,630
1949 .....	38,644	542,676	581,320	70,424	355,905
1950 .....	70,424	571,763	642,187	35,619	499,637
1951 .....	35,619	486,874	522,493	25,339	496,184
1952 .....	.....	532,778	558,117	.....	492,094
1953 .....	.....	.....	.....	.....	.....
April .....	62,371	46,729	109,100	69,608	39,487
May .....	69,608	43,187	112,795	63,879	48,914
June .....	63,879	36,880	100,759	56,569	44,140
July .....	56,569	40,210	96,779	61,017	35,652
August .....	61,017	38,022	99,039	58,103	40,836
September .....	58,103	42,154	100,257	58,490	41,598
October .....	58,490	44,741	103,231	58,236	44,987
November .....	58,236	52,562	110,798	67,494	43,234
December .....	67,494	48,687	116,181	81,152	35,007
Total .....	.....	533,883	577,443	.....	488,437
1954 .....	.....	.....	.....	.....	.....
January .....	81,152	48,518	129,670	92,496	37,108
February .....	92,496	42,046	134,542	97,981	36,551
March .....	97,981	50,808	148,789	100,927	47,837
April .....	100,927	46,730	147,657	100,441	47,161
May .....	100,441	49,139	149,580	109,302	40,183
June .....	109,302	42,317	151,619	104,626	46,987
July .....	104,626	35,716	140,342	93,030	37,402
August .....	93,030	44,089	137,119	84,429	43,402
September .....	84,429	47,762	132,191	93,358	30,891

In instances where the figures are not in balance it is due to shipments to other than domestic consumers.

## Industrial Classification of Domestic Lead Shipments

(American Bureau of Metal Statistics)

(In tons of 2,000 lbs.)

	Cable	Amm.	Foil	Batt'y	Brass Making	Sun- dries	Job- bers	Unclassi- fied
1948 .....	114,253	42,080	2,258	97,637	4,921	41,524	8,076	215,150
1949 .....	56,273	12,443	1,139	72,475	3,190	37,549	4,117	168,719
1950 .....	66,646	28,854	3,304	93,297	6,374	60,118	10,450	230,594
1951 .....	70,149	32,099	2,063	75,337	5,583	48,248	3,550	259,155
1952 .....	.....	.....	.....	.....	.....	.....	.....	.....
Apr. ....	7,132	2,054	25	5,752	406	3,543	250	18,750
May ....	6,904	1,350	50	4,875	346	2,703	622	12,694
June ....	5,981	3,174	60	6,492	235	3,750	668	19,143
July ....	4,654	3,677	175	8,339	450	6,071	663	25,676
Aug. ....	6,330	2,401	100	7,773	276	4,540	685	19,164
Sept. ....	7,899	3,224	80	9,929	226	4,282	458	19,720
Oct. ....	7,548	2,475	60	7,221	480	3,668	318	19,200
Nov. ....	5,714	2,434	150	5,855	595	7,927	514	25,072
Dec. ....	5,536	2,594	110	5,840	385	3,319	253	21,333
Total .....	74,616	30,809	1,374	77,238	5,160	50,943	5,671	246,283
1953 .....	.....	.....	.....	.....	.....	.....	.....	.....
Jan. ....	5,183	1,554	186	5,567	352	3,763	204	18,720
Feb. ....	6,248	4,509	61	6,098	438	3,267	417	15,773
Mar. ....	6,175	2,796	323	7,011	415	5,641	509	19,372
Apr. ....	5,833	3,103	102	8,369	295	3,711	453	17,621
May ....	6,829	3,450	370	8,480	752	5,118	605	23,310
June ....	6,420	3,315	290	7,018	528	5,892	196	20,481
July ....	5,123	3,161	35	6,304	205	5,047	168	15,609
Aug. ....	5,226	2,335	120	9,435	745	5,382	268	17,325
Sept. ....	6,494	2,162	105	7,274	1,088	5,261	199	19,015
Oct. ....	9,612	2,782	160	6,346	307	4,628	1,987	19,165
Nov. ....	6,920	3,352	312	4,452	385	4,876	982	21,955
Dec. ....	6,220	1,896	72	3,985	206	3,350	402	18,876
Total .....	76,283	34,415	2,136	80,339	5,716	55,936	6,390	227,222
1954 .....	.....	.....	.....	.....	.....	.....	.....	.....
Jan. ....	6,273	2,955	.....	5,077	964	5,051	628	16,160
Feb. ....	6,040	2,170	.....	5,890	798	3,682	254	17,717
Mar. ....	7,620	2,405	252	6,663	149	6,818	492	23,438
Apr. ....	6,207	2,550	361	6,341	308	5,194	342	25,798
May ....	6,030	2,310	276	5,635	250	4,621	1,020	20,041
June ....	6,116	3,700	122	5,711	406	6,525	1,114	23,293
July ....	4,000	1,500	.....	6,690	415	4,121	861	19,608
Aug. ....	8,799	3,358	146	6,111	838	5,377	1,152	17,621
Sept. ....	4,602	1,653	564	4,110	20	4,667	851	14,424

## Lead Prices at New York

(Common Grade)

Monthly Average Prices  
(Cents per pound)

	1951	1952	1953	1954
Jan. ....	17.00	19.00	14.192	13.26
Feb. ....	17.00	19.00	13.50	12.82
Mar. ....	17.00	19.00	13.404	12.94
Apr. ....	17.00	18.92	12.64	13.91
May ....	17.00	15.731	12.75	14.00
June ....	17.00	15.26	13.413	14.11
July ....	17.00	16.00	13.683	14.00
Aug. ....	17.00	16.00	14.00	14.06
Sept. ....	17.00	16.00	13.74	14.60
Oct. ....	18.926	14.426	13.50	14.975
Nov. ....	19.00	14.18	13.50	....
Dec. ....	19.00	14.125	13.50	....
Av. ....	17.494	16.47	13.485	....

## Lead Sheet Prices

(To Jobbers, Full Sheets)

Monthly Average Prices  
(Cents per pound)

	1951	1952	1953	1954
Jan. ....	22.00	24.00	19.192	18.26
Feb. ....	22.00	24.00	18.50	17.82
Mar. ....	22.00	24.00	18.404	17.94
Apr. ....	22.00	23.92	17.64	18.91
May ....	22.00	20.81	17.75	19.00
June ....	22.00	20.65	19.413	19.11
July ....	22.00	21.00	18.683	19.00
Aug. ....	22.00	21.00	19.00	19.06
Sept. ....	22.00	21.00	18.74	19.60
Oct. ....	22.44	19.48	18.50	19.975
Nov. ....	24.00	19.18	18.50	....
Dec. ....	24.00	19.125	18.50	....

## Battery Shipments

The following table shows replacement battery shipments in the United States as compiled by the Business Information Division of Dun & Bradstreet, Inc., for the Association of American Battery Manufacturers.

(In thousands of units)

	1951	1952	1953	1954
Jan. ..	1,979	1,639	1,571	1,788
Feb. ..	1,469	963	1,162	1,422
Mar. ..	1,176	769	1,202	1,194
Apr. ..	1,892	850	1,245	1,150
May ..	1,480	1,137	1,455	1,391
June ..	1,443	1,535	2,004	1,834
July ..	1,705	2,526	2,528	2,288
Aug. ..	2,239	2,905	2,707	2,481
Sept. ..	2,172	2,874	2,852	2,725
Oct. ..	2,640	3,112	2,825	....
Nov. ..	2,232	2,168	2,173	....
Dec. ..	1,792	1,975	1,890	....
Total ..	22,219	22,453	23,614	....

# Lead Stocks at Primary U. S. Smelters and Refiners

(American Bureau of Metal Statistics)

(In tons of 2,000 lbs.)

	In ore and matte and in process at smelters	At smelters & refineries	In transit to refineries	In process at refineries	Refined pig lead	Anti- monial lead	Total Stocks
1949							
Jan. 1	76,373	9,697	4,101	17,939	29,050	9,594	146,754
1950							
Jan. 1	95,481	16,364	3,696	15,651	61,329	9,095	201,526
1951							
Jan. 1	69,757	11,993	4,959	15,341	28,894	6,725	137,669
1952							
Jan. 1	67,817	11,315	3,909	15,700	18,518	6,821	124,080
1953							
Mar. 1	61,820	11,651	4,784	21,853	48,213	10,736	159,057
Apr. 1	61,036	13,656	2,506	21,464	50,887	11,484	161,033
May 1	56,867	14,490	1,936	20,010	58,360	11,248	162,911
June 1	56,892	13,299	3,181	20,135	53,115	10,764	157,386
July 1	65,655	14,237	2,250	20,865	42,234	14,335	159,576
Aug. 1	69,771	15,742	2,907	22,290	46,770	14,247	171,727
Sept. 1	83,673	15,332	2,964	22,960	43,355	14,748	183,032
Oct. 1	81,377	16,921	3,549	24,717	42,613	15,877	185,054
Nov. 1	79,283	19,446	2,664	26,785	42,494	15,742	186,414
Dec. 1	73,348	19,916	2,868	24,303	50,996	16,498	187,929
1954							
Jan. 1	67,688	17,920	2,867	26,713	65,036	16,116	196,340
Feb. 1	63,032	12,790	3,406	28,050	77,805	14,691	199,774
Mar. 1	63,175	12,226	4,482	28,140	83,183	14,798	206,044
Apr. 1	68,520	13,377	2,631	28,841	88,942	11,985	214,296
May 1	67,270	14,624	2,715	28,257	88,464	11,977	213,307
June 1	64,103	10,906	1,348	27,105	97,420	11,882	212,764
July 1	61,669	12,241	3,660	26,046	94,828	9,798	208,242
Aug. 1	63,093	17,196	2,592	30,301	80,820	12,210	206,212
Sept. 1	62,851	18,688	2,903	29,792	72,150	12,279	198,663
Oct. 1	63,731	18,771	4,155	29,024	79,190	14,168	209,039

## Receipts of Lead in Ore and Scrap

By U. S. Smelters (a)

(American Bureau of Metal Statistics)

(In tons of 2,000 lbs.)

	Receipts of lead in ore			Receipts of lead in scrap etc. (b)	Total receipts in ore, & scrap
	United States	Foreign	Total		
1949 Total	420,122	93,061	513,183	58,447	571,630
1950 Total	430,072	76,160	506,232	43,666	549,898
1951 Total	376,851	75,515	452,366	36,510	488,876
1952					
August	32,393	11,166	43,559	2,560	46,119
September	32,919	5,095	38,014	3,549	41,563
October	33,770	6,925	40,695	3,707	44,402
November	30,537	14,009	44,546	2,663	47,209
December	32,769	10,317	43,086	3,690	46,776
Total	405,990	98,276	504,266	41,845	546,111
1953					
January	30,697	10,191	40,888	3,887	44,775
February	30,388	10,008	40,396	2,935	43,331
March	32,660	12,974	45,634	2,513	48,147
April	31,557	8,895	40,452	2,675	43,127
May	28,793	11,856	40,649	2,019	42,668
June	30,753	11,611	42,364	3,441	45,805
July	27,339	17,082	44,421	4,061	48,482
August	27,709	19,548	47,257	5,562	52,819
September	27,637	12,190	39,827	4,625	44,452
October	27,934	17,063	44,997	3,680	48,677
November	26,904	13,603	40,507	4,016	44,523
December	28,812	10,767	39,579	3,580	43,159
Total	351,183	155,788	506,971	42,994	549,965
1954					
January	26,202	13,309	39,511	3,162	42,673
February	29,342	10,888	40,230	3,373	43,603
March	31,520	12,006	43,526	3,550	47,076
April	28,508	13,173	41,681	4,524	46,205
May	25,762	11,141	36,903	4,484	41,387
June	28,266	11,750	40,016	3,300	43,316
July	26,975	14,984	41,959	3,742	45,701
August	28,835	12,820	41,655	4,060	45,715
September	25,244	20,807	46,051	4,450	50,501

(a) Receipts of lead in ore are computed on the basis of recoverable lead. Owing to the estimational factor in this, which is probably on the low side, and also to the possibility that some lead receipts may escape attention, these monthly totals probably underrun the actual production of pig lead. (b) inclusive only of scrap smelted in connection with ore, plus some scrap received by primary refiners.

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## N. Y. Lead Price Changes

(Effective Date)

1949	Nov. 11....14.50
Aug. 2....14.75	Nov. 20....14.25
Aug. 18....15.125	Nov. 24....14.00
Sept. 26....14.75	Dec. 22....14.25
Oct. 3....14.25	Dec. 29....14.50
Oct. 7....13.75	Dec. 31....14.75
Oct. 14....13.00	1953
Nov. 10....12.75	Jan. 7....14.50
Nov. 16....12.50	Jan. 12....14.00
Nov. 21....12.00	Feb. 2....13.50
1950	Mar. 4....13.00
Mar. 9....11.00	Mar. 10....13.50
Mar. 14....10.50	Apr. 7....13.00
Apr. 20....10.75	Apr. 16....12.50
Apr. 26....11.00	Apr. 21....12.00
May 4....11.25	Apr. 29....12.50
May 10....11.50	May 18....12.75
May 11....12.00	May 19....13.00
June 23....11.50	May 26....13.15
1951	June 11....13.50
June 28....11.00	July 20....13.75
July 12....11.50	July 23....14.00
July 13....12.00	Sept. 16....13.50
Aug. 15....13.00	1954
Aug. 21....14.00	Jan. 18....13.00
Sept. 1....15.00	Feb. 18....12.50
Sept. 8....16.00	Mar. 9....12.75
Oct. 2....**19.00	Mar. 10....13.00
Oct. 31....17.00	Mar. 26....13.25
1952	Mar. 29....13.50
Apr. 29....18.00	Apr. 1....13.75
May 2....17.00	Apr. 12....14.00
May 12....15.00	June 2....14.25
June 23....15.50	June 15....14.00
June 24....16.00	Aug. 25....14.25
Oct. 7....15.00	Sept. 7....14.50
Oct. 14....14.00	Sept. 15....14.75
Oct. 22....13.50	Oct. 4....14.75
Nov. 3....14.00	Oct. 4....15.00
Nov. 10....14.20	Oct. 5....15.00

\*OPA Ceiling. †Returned to OPA Ceiling.

\*\*OPS Ceiling.

## Antimonial Lead Stocks at Primary Refineries

(A. B. M. S.)

	(In tons of 2,000 lbs.)			
End of:	1951	1952	1953	1954
Jan.	7,293	7,430	11,572	14,961
Feb.	8,738	7,805	10,736	14,798
Mar.	7,894	9,169	11,484	11,985
Apr.	8,269	9,646	11,248	11,977
May	8,519	9,931	10,764	11,882
June	7,044	10,323	14,335	9,798
July	8,854	10,049	14,247	12,210
Aug.	7,215	11,253	14,748	12,279
Sept.	6,998	9,874	15,877	14,168
Oct.	6,543	10,967	15,742	.....
Nov.	6,552	11,143	16,498	.....
Dec.	6,821	12,155	16,116	.....

## Antimonial Lead Production by Primary Refineries

(A. B. M. S.)

	(In tons of 2,000 lbs.)			
End of:	1951	1952	1953	1954
Jan.	6,356	5,767	2,937	3,768
Feb.	6,504	4,395	3,682	4,257
Mar.	5,617	3,800	5,353	4,475
Apr.	5,406	3,162	5,027	4,470
May	4,378	2,347	6,497	4,373
June	4,361	5,303	9,270	3,796
July	7,624	6,352	5,259	5,991
Aug.	2,716	6,492	4,668	6,455
Sept.	4,227	4,748	5,509	5,869
Oct.	4,862	5,867	5,100	.....
Nov.	6,943	4,674	5,400	.....
Dec.	6,317	3,947	3,060	.....
Total	65,311	56,854	61,762	.....



## U. S. Lead Consumption

(Bureau of Mines — In Short Tons)

Metal Products	1954		
	Jan.-Aug.	July	Aug.
Ammunition .....	25,870	2,323	3,098
Bearing metals .....	17,600	1,655	2,123
Brass and bronze .....	12,453	1,118	1,708
Cable covering .....	84,053	6,357	10,969
Calking lead .....	31,956	4,695	4,600
Casting metals .....	5,710	879	726
Collapsible tubes .....	6,172	557	825
Foil .....	2,613	303	486
Pipes, traps and bends .....	16,653	2,073	2,295
Sheet lead .....	16,761	2,133	2,249
Solder .....	47,554	5,470	6,143
Storage batteries (antimonial lead) .....	113,602	13,868	16,432
(oxides) .....	107,663	12,954	15,252
Terne metal .....	875	110	107
Type metal .....	18,045	1,917	2,790
Total .....	507,580	56,412	69,808
<b>Pigments:</b>			
White lead .....	12,247	1,565	1,779
Red lead and litharge .....	51,488	4,700	6,022
Pigment colors .....	9,380	1,085	1,283
Other† .....	6,244	1,038	698
Total .....	79,359	8,388	9,787
<b>Chemicals:</b>			
Tetraethyl lead .....	109,783	14,036	13,627
Misc. chemicals .....	4,076	...	236
Total .....	113,859	14,036	13,863
<b>Misc. Uses:</b>			
Annealing .....	2,461	227	324
Galvanizing .....	1,116	174	151
Lead plating .....	468	80	63
Weights and ballasts .....	4,607	532	630
Total .....	8,652	1,013	1,168
<b>Other Uses</b>			
Unclassified .....	9,245	1,030	1,028
<b>Total Reported</b> .....	718,695	80,879	95,654
Estimated unreported consumption .....	8,000	1,000	1,000
Total .....	727,000	82,000	97,000
<b>Daily average‡</b> .....	2,992	2,645	3,129

† Includes lead content of leaded zinc oxide production.
‡ Based on number of days in month without adjustment for Sundays or holidays.

## Consumers' Lead Stocks, Receipts and Consumption

(Bureau of Mines — In Short Tons)

	Stocks at plants on July 31*	Received during Aug.	Consumed during Aug.	Stocks at plants on Aug. 31
Refined soft lead .....	83,136	56,917	61,490	78,563
Antimonial lead .....	20,344	23,187	24,461	19,070
Unmelted white scrap .....	2,847	2,297	2,137	3,007
Percentage metals .....	9,785	2,711	3,481	9,015
Copper-base scrap .....	1,811	2,037	1,870	1,948
Drosses, residues, etc. ....	8,470	1,700	1,537	8,633
Total .....	126,393	88,819	194,976	120,236

\* Revised.

‡ Excludes 678 tons of lead contained in leaded zinc oxide production.

## Consumption of Lead by Class of Product

(Bureau of Mines — In Short Tons)

	AUGUST		Total
	Soft and Antimonial Lead	Scrap, Percentage Metal, Drosses, Etc.	
Metal Products .....	60,934	8,874	69,808
Pigments .....	9,087	42	9,109
Chemicals .....	13,863	...	13,863
Miscellaneous .....	1,168	...	1,168
Unclassified .....	919	109	1,028
Total .....	85,951	9,025	194,976

‡ Excludes 678 tons of lead contained in leaded zinc oxide production.

## U. K. Lead Consumption

(British Bureau of Non-Ferrous Metal Statistics)

(In tons of 2,240 pounds)

	1952	1953	1954
Jan. ....	27,986	27,192	25,786
Feb. ....	25,096	24,552	25,837
Mar. ....	24,695	25,226	29,442
Apr. ....	22,359	24,869	25,820
May ....	24,093	24,350	28,637
June ....	21,903	23,612	28,574
July ....	23,746	23,455	25,968
Aug. ....	18,542	20,599	25,671
Sept. ....	24,902	27,426	...
Oct. ....	28,946	28,014	...
Nov. ....	26,996	27,358	...
Dec. ....	24,056	26,582	...
Total .....	293,320	303,753	...

## American Antimony

Monthly Average Prices in bulk, f.o.b. Laredo (Cents per lb. in ton lots)

	1951	1952	1953	1954
Jan. ....	35.46	50.00	34.50	28.50
Feb. ....	42.00	50.00	34.50	28.50
Mar. ....	42.00	50.00	34.50	28.50
Apr. ....	42.00	48.85	34.50	28.50
May ....	42.00	42.077	34.50	28.50
June ....	42.00	39.00	34.50	28.50
July ....	42.00	39.00	34.50	28.50
Aug. ....	42.00	39.00	34.50	28.50
Sept. ....	42.00	39.00	34.50	28.50
Oct. ....	42.00	39.00	34.50	28.50
Nov. ....	44.738	35.61	33.68	...
Dec. ....	50.00	34.50	28.50	...
Av. ....	42.354	42.17	33.93	...

## Lead Imports and Exports by Principal Countries

(A.B.M.S.)

Reported in pigs, bars, etc.: metric tons except where otherwise noted.

	IMPORTS		
	1954	1954	1954
	June	July	Aug.
U. S.† (s.t.) .....	30,576	28,376	24,644
Canada (s.t.) .....	11	2	...
Belgium .....	2,121	1,594	...
Denmark .....	1,742	615	792
France .....	5,728	3,739	4,174
Germany‡ .....	4,462	5,725	3,485
Italy* .....	1,233	...	...
Netherlands .....	1,529	3,147	...
Norway .....	323	...	...
Sweden .....	406	1,436	1,318
Switzerland .....	2,351	657	2,235
U. K. (l.t.) .....	15,581	13,650	11,810
India (l.t.) .....	897	976	...
<b>EXPORTS</b>			
U. S.† (s.t.) .....	95	38	8
Canada (s.t.) .....	12,017	13,153	8,646
Belgium .....	3,176	2,155	...
Denmark .....	944	679	142
France .....	603	881	498
Germany‡ .....	1,390	2,070	2,403
Italy* .....	2	...	...
Netherlands .....	652	637	...
Switzerland .....	15	8	...
N. Rhodesia (l.t.) .....	861	699	...

† Refined.

‡ Includes scrap.

\* Includes lead alloys.

## French Lead Imports

(A.B.M.S.)

(In metric tons)

	1954	1954	1954
	July	Aug.	Sept.
Ore (gross weight) .....	6,290	8,378	4,320
Greece .....	395	...	...
Algeria .....	2	523	...
Fr. Morocco .....	5,893	6,837	3,309
Fr. Equat. Africa .....	...	1,018	1,011
<b>Pig Lead:</b>			
Argentiferous .....	...	...	10
Germany (W.) .....	...	...	10
<b>Non-argenti-</b>			
<b>ferous</b> .....	3,739	4,174	5,644
Belgium .....	57	...	...
Germany (W.) .....	480	23	739
Spain .....	500	...	...
Algeria .....	...	2	...
Fr. Morocco .....	1,862	1,803	1,816
Tunisia .....	840	2,346	2,989
Jugoslavia .....	...	...	100
Antimonial lead .....	6	10	7

## U. K. Lead Imports

(British Bureau of Non-Ferrous Metal Statistics)

(In tons of 2,240 lbs.)

	1954	1954	1954
	June	July	Aug.
(Gross Weight)			
Lead and lead alloys .....	15,581	13,650	11,810
Australia .....	10,703	5,330	8,010
Canada .....	2,800	6,938	2,500
Yugoslavia .....	175	400	500
United States .....	650	200	300
Peru .....	1,100	775	500
Other countries .....	153	7	...

METALS, NOVEMBER, 1954

## Domestic Zinc Statistics

### American Zinc Institute

Commencing with January, 1946, all regularly operating U. S. primary and secondary smelters are included in this report. Production from foreign area also is included.  
(Tons of 2,000 lbs.)

	Stock Begin- ning	Pro- duc- tion	Shipments			Stock at End	Unfilled Orders at End	Daily Avg. Prod.
			Domes- tic	Export & Drawback	Gov't Acc't			
1947 Total	848,027	698,281	117,305	140,230	955,816			
1947 Monthly Avg.	70,669	58,190	9,775	11,686	79,651			2,323
1948 Total	860,015	770,396	69,910	57,598	897,904			
1948 Monthly Avg.	70,842	64,200	5,826	4,800	74,826			2,323
1949 Total	870,113	648,285	56,929	91,526	796,740			
1949 Monthly Avg.	72,509	54,024	4,744	7,627	66,395			2,384
1950 Total	910,354	849,246	18,189	128,256	995,691			
1950 Monthly Avg.	75,863	70,770	1,516	10,688	82,974			2,494
1951 Total	981,833	836,800	32,067	39,949	918,816			
1951 Monthly Avg.	77,653	69,733	3,506	3,329	76,568			2,553
1952								
July	63,342	76,980	38,714	3,146	43,853	96,919	46,547	2,482
Aug.	96,919	78,167	72,963	4,091	1,381	78,435	96,551	44,522
Sept.	96,651	76,019	69,343	3,654	5,132	78,129	94,541	42,791
Oct.	94,541	80,588	71,659	3,827	4,301	79,787	95,342	37,533
Nov.	95,342	78,563	81,489	4,625	4,692	90,756	83,149	32,255
Dec.	88,149	81,363	71,175	2,615	3,562	77,852	86,160	45,264
Total		961,430	803,343	56,202	36,626	896,171		
Monthly Avg.		80,119	66,945	4,683	3,052	74,681		2,627
1953								
Jan.	87,160	81,994	77,573	2,205	901	80,679	88,475	39,782
Feb.	88,475	76,899	67,729	1,997	1,984	71,710	93,664	37,172
Mar.	93,664	83,485	72,388	1,315	3,582	77,285	99,864	54,524
Apr.	99,864	80,469	78,211	215	7,617	86,043	94,280	38,722
May	94,280	82,422	75,648	259	8,843	84,250	92,452	43,271
June	92,452	81,617	72,612	36	4,136	76,784	97,286	44,307
July	97,285	80,825	69,498	94	4,612	74,204	103,906	32,327
Aug.	103,906	83,241	65,450	428	3,372	69,250	117,897	32,988
Sept.	117,897	81,211	55,167	165	2,215	57,547	141,561	27,323
Oct.	141,561	84,031	65,470	482	1,223	67,175	158,417	25,950
Nov.	158,417	76,891	63,677	2,848	2,220	68,685	165,623	24,437
Dec.	165,623	79,116	55,487	6,282	2,127	63,896	180,843	30,466
Total		971,191	818,860	16,326	42,332	877,008		
Monthly Avg.		80,938	68,238	1,361	3,528	73,126		2,661
1954								
Jan.	180,843	78,561	54,865	3,681	2,146	60,692	198,712	26,378
Feb.	198,712	68,020	57,781	7,179	1,778	66,738	199,994	28,943
Mar.	199,994	71,186	66,929	1,703	1,448	70,080	201,100	31,702
Apr.	201,100	70,255	67,512	977	2,489	70,616	200,740	31,702
May	200,740	73,645	61,869	670	2,037	64,566	209,828	38,624
June	209,828	71,466	72,257	2,297	5,685	80,239	201,055	33,100
July	201,124	70,749	59,167	1,475	13,214	73,846	198,027	38,899
Aug.	198,027	71,810	58,188	1,525	16,871	76,584	193,253	41,059
Sept.	193,253	60,137	64,548	1,072	12,265	77,885	175,505	48,818
Oct.	175,505	67,047	78,867	1,468	10,080	90,415	152,137	51,559

## Prime Western Zinc Prices

(East St. Louis)

Average Prices, Cents Per Pound

	1951	1952	1953	1954
Jan.	17.50	19.50	12.596	9.76
Feb.	17.50	19.50	11.48	9.375
Mar.	17.50	19.50	11.024	9.66
Apr.	17.50	19.50	11.00	10.25
May	17.50	19.50	11.00	10.29
June	17.50	15.74	11.00	10.96
July	17.50	15.00	11.00	11.00
Aug.	17.50	14.077	11.00	11.00
Sept.	17.50	14.01	10.18	11.44
Oct.	19.426	13.306	10.00	11.50
Nov.	19.50	12.50	10.00	....
Dec.	19.50	12.50	10.00	....
Av.	17.994	16.22	10.857	....

## High Grade Zinc Prices

(Delivered)

N. Y. Monthly Averages

(Cents per pound)

	1951	1952	1953	1954
Jan.	18.85	20.85	13.946	11.11
Feb.	18.85	20.85	12.83	10.725
Mar.	18.85	20.85	12.379	11.01
Apr.	18.85	20.85	12.35	11.60
May	18.85	20.85	12.35	11.64
June	18.85	17.09	12.35	12.31
July	18.85	16.35	12.47*	12.35
Aug.	18.85	15.427	12.60	12.35
Sept.	18.85	15.36	11.53	12.79
Oct.	20.776	14.656	11.35	12.85
Nov.	20.85	13.85	11.35	....
Dec.	20.85	13.85	11.35	....
Av.	19.344	17.57	12.207	....

\*East of Continental Divide.

## U. K. Zinc Consumption

(British Bureau of Non-Ferrous Metal Statistics)

	1952	1953	1954
Jan.	26,206	21,179	25,615
Feb.	24,454	20,311	25,286
Mar.	24,697	21,662	29,001
Apr.	22,072	20,421	26,084
May	21,938	20,105	27,551
June	19,637	21,141	29,665
July	18,807	19,226	23,012
Aug.	16,511	17,341	22,102
Sept.	21,192	26,465	....
Oct.	22,264	26,865	....
Nov.	19,570	26,982	....
Dec.	18,256	26,689	....
Total	255,657	269,170	....

## U. S. Consumption of Slab Zinc

Bureau of Mines  
By Industries (Short Tons)

	Galvan- izers	Zn-base alloy	Brass products	Rolled zinc	Zinc oxide & other	Total
1947 Total	359,583	215,002	108,591	71,151	26,328	780,675
1948 Total	365,979	232,482	107,422	76,672	24,247	806,802
1949 Total	348,544	197,387	84,257	55,100	17,643	702,931
1950 Total	434,094	281,385	136,451	67,779	27,656	947,365
1951 Total	386,373	266,442	141,456	64,000	28,738	887,009
1952						
July	12,160	13,422	8,137	3,339	1,817	38,875
August	34,840	17,314	11,782	4,814	1,859	70,609
September	37,394	21,178	13,682	4,478	2,097	78,829
October	40,466	23,286	17,258	4,938	2,937	88,885
November	36,333	21,493	14,776	4,372	3,087	80,061
December	36,717	25,146	16,212	4,699	3,217	85,991
Total	375,563	236,022	155,311	51,508	30,885	849,289
1953						
January	36,974	27,465	16,739	4,593	3,332	89,103
February	34,882	27,092	14,880	3,914	3,330	84,098
March	37,375	30,651	17,494	5,360	3,572	94,452
April	36,181	29,790	17,162	5,109	3,302	91,544
May	34,790	27,398	17,748	5,082	3,408	88,426
June	32,758	27,099	17,564	5,309	3,129	85,859
July	30,535	22,832	12,361	4,053	3,250	73,031
August	33,074	22,740	15,739	4,440	3,107	79,100
September	33,465	21,745	13,374	4,329	3,221	76,134
October	34,354	22,854	13,709	4,077	3,077	78,071
November	29,989	21,408	9,779	3,887	2,482	67,545
December	28,785	24,272	10,758	3,631	2,827	70,273
Total	403,162	305,346	177,301	53,784	38,037	977,636
1954						
January	26,731	21,804	10,266	4,014	3,029	65,844
February	27,243	22,184	8,486	4,035	2,230	64,178
March	31,298	26,549	9,026	4,246	2,520	73,639
April	32,970	24,176	8,181	3,933	2,395	71,655
May	32,935	22,081	8,450	3,848	3,028	70,342
June	34,827	23,534	8,860	4,214	2,880	74,665
July	33,897	17,214	6,135	3,006	2,712	63,314
August	38,225	19,891	8,349	4,030	2,684	73,529

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## Mine Production of Zinc in United States

(U. S. Bureau of Mines)

	(In short tons)			
	Eastern States	Central States	Western States	Total U.S.*
1949				
Total	156,334	78,284	349,264	583,882
1950				
Total	170,726	82,300	365,175	618,207
1951				
Total	188,525	92,457	398,128	679,111
1952				
Total	185,939	94,410	385,652	666,001
1953				
Apr.	16,215	7,459	27,429	51,103
May	14,864	6,851	26,075	47,790
June	15,628	5,015	25,722	46,365
July	15,640	2,771	23,894	42,305
Aug.	14,288	3,104	23,573	40,965
Sept.	14,169	2,841	22,178	39,188
Oct.	14,741	2,821	21,209	38,771
Nov.	14,524	1,990	19,946	36,460
Dec.	14,709	1,646	21,390	37,745
Total	183,612	57,300	293,818	534,730
1954				
Jan.	13,772	4,575	20,505	38,852
Feb.	14,379	4,733	19,010	38,122
Mar.	15,242	5,462	20,548	41,252
Apr.	14,188	4,863	20,894	39,945
May	13,746	5,210	21,075	40,031
June	14,563	5,410	20,463	40,436
July	13,866	5,309	19,501	38,676
Aug.	14,867	5,595	18,283	38,745
Sept.	14,452	5,380	14,598	34,430

\* Includes Alaskan output in some months.

## Mine Production of Lead in United States

(U. S. Bureau of Mines)

	(In short tons)			
	Eastern States	Central States	Western States	Total U.S.*
1949				
Ttl.	8,719	156,400	238,843	404,032
1950				
Ttl.	8,470	163,489	257,766	429,875
1951				
Ttl.	7,426	152,258	230,723	390,428
1952				
Ttl.	11,252	150,302	228,607	390,161
1953				
Apr.	1,005	12,943	17,098	31,052
May	911	12,268	15,866	29,045
June	793	11,700	15,856	28,349
July	764	11,277	14,323	26,364
Aug.	596	10,565	14,922	26,083
Sept.	616	10,595	15,263	26,474
Oct.	802	11,065	14,785	26,652
Nov.	813	10,022	13,836	24,671
Dec.	786	11,592	14,729	27,107
Ttl.	9,970	136,650	188,776	335,412
1954				
Jan.	731	10,937	13,027	24,695
Feb.	684	11,709	15,050	27,443
Mar.	785	12,835	15,889	29,539
Apr.	752	11,786	14,306	26,844
May	738	10,970	13,687	25,395
June	782	11,446	13,981	26,209
July	681	11,253	13,357	25,291
Aug.	850	11,655	14,606	27,111
Sept.	786	11,300	12,850	24,936

\* Includes Alaskan output in some months.

## Mine Production of Gold in United States

(U. S. Bureau of Mines)

	(In fine ounces)			
	Eastern States	Western States	Alaska*	Total
1950				
Ttl.	2,061	2,108,756	282,866	2,391,683
1951				
Ttl.	2,511	1,749,580	205,452	1,957,543
1952				
Ttl.	1,948	1,650,660	233,428	1,886,036
1953				
Aug.	97	140,680	39,174	179,951
Sept.	129	147,256	48,544	195,929
Oct.	120	147,753	41,224	189,097
Nov.	144	139,473	30,591	170,208
Dec.	114	137,129	20,000	157,243
Ttl.	1,529	1,689,668	273,479	1,964,676
1954				
Jan.	105	137,310	1,585	139,000
Feb.	126	130,410	1,212	131,748
Mar.	158	141,266	7,893	149,317
Apr.	69	134,616	3,538	138,223
May	132	126,844	13,939	140,915
June	147	140,243	38,790	179,180
July	155	130,447	31,235	161,837
Aug.	151	119,348	42,208	161,707
Sept.	172	130,280	43,104	173,556

\* Alaska totals based on mint and smelter receipts.

## U. S. Silver Production\*

(A.B.M.S.)

	(In thousands of ounces)			
	Domestic	Foreign	Commercial	Total
1949 Total	34,559	28,226		62,785
1950 Total	42,068	37,656		79,724
1951 Total	39,967	33,837		73,804
1952 Total	40,245	36,653		76,898
1953				
May	2,323	3,095		5,918
June	1,909	2,536		4,445
July	2,525	2,533		5,058
August	2,652	4,334		6,986
September	2,301	2,613		4,914
October	3,558	3,431		6,989
November	2,551	4,707		7,218
December	3,751	1,811		5,562
Total	34,697	37,764		72,461
1954				
January	3,372	2,674		6,046
February	3,163	3,729		6,957
March	3,775	3,729		7,504
April	3,643	3,708		7,351
May	3,229	3,335		6,564
June	3,609	3,212		6,821
July	1,997	2,940		4,937
August	2,779	2,795		5,574
September	2,840	3,797		6,637

\* The separation between silver of foreign and domestic origin on the basis of refined bars and other refined forms is only approximate.

† Includes purchases of crude silver by the U. S. Mint.

## Mine Production of Recoverable Silver in United States

(U. S. Bureau of Mines)

	(In Fine Ounces)			
	Eastern States	Missouri	Western States	Total
1952 Total	158,004	391,707	38,515,679	39,105,390
1953				
August	10,184	230	3,006,888	3,017,202
September	15,987	420	3,042,472	3,058,879
October	12,546	500	3,124,441	3,137,487
November	18,126	400	2,931,892	2,950,418
December	10,112	354	3,021,387	3,031,853
Total	158,707	223,500	36,354,685	36,736,900
1954				
January	11,662	25,220	2,906,976	2,943,858
February	9,333	20,327	2,981,326	2,991,000
March	15,643	21,825	3,314,479	3,351,947
April	11,103	17,795	3,093,436	3,122,334
May	11,591	17,997	3,270,529	3,300,117
June	10,667	18,533	3,197,890	3,226,120
July	11,211	18,702	2,915,851	2,945,764
August	10,739	19,145	2,923,951	2,953,835
September	10,749	18,090	2,790,957	2,820,806

\* Alaska totals based on mint and smelter receipts.

\*\*Includes a total of 3,708 oz. from Illinois.

## Production of Primary Aluminum in the U. S.\*

(U. S. Bureau of Mines)

	(In short tons)							
	1947	1948	1949	1950	1951	1952	1953	1954
Jan.	50,045	48,767	54,356	50,023	67,954	76,934	89,895	116,247
Feb.	47,002	45,699	49,749	54,493	62,740	72,374	92,649	110,483
Mar.	43,032	51,874	54,852	58,747	70,022	77,069	104,460	122,339
Apr.	51,007	53,277	54,076	58,024	67,701	76,880	102,071	120,434
May	51,116	55,450	56,909	51,929	67,720	80,803	105,464	125,138
June	46,259	48,557	54,184	60,400	67,454	77,476	104,152	120,758
July	47,998	52,937	55,777	63,518	72,698	78,368	109,285	126,161
Aug.	47,054	54,953	52,001	63,006	73,816	85,175	110,545	125,296
Sept.	43,228	53,255	49,742	54,449	69,429	76,882	109,333	120,332
Oct.	43,959	54,526	45,790	62,915	72,647	77,312	108,219	120,332
Nov.	43,461	50,174	35,865	62,276	72,246	74,639	105,636	120,332
Dec.	47,589	53,474	34,161	65,897	72,454	83,419	110,291	120,332
Total	571,750	623,456	603,462	718,622	836,881	937,330	1,252,000	1,452,000

\*Based on producers' reports to War Production Board to July, 1946. Thereafter to Bureau of Mines. The monthly figures are preliminary in nature and will not add to the totals derived from the Bureau's annual industry canvass.

## Average Silver Prices

	(Cents per fine ounce)			
	1951	1952	1953	1954
Jan.	88.71	88.00	84.44	85.25
Feb.	90.16	88.00	85.25	85.25
Mar.	90.16	88.00	85.25	85.25
Apr.	90.16	88.00	85.25	85.25
May	90.16	85.405	85.25	85.25
June	88.553	82.75	85.25	85.25
July	90.16	82.886	85.25	85.25
Aug.	90.16	83.25	85.25	85.25
Sept.	90.16	83.25	85.25	85.25
Oct.	88.14	83.25	85.25	85.25
Nov.	88.00	83.25	85.25	85.25
Dec.	88.00	83.25	85.25	85.25
Av.	89.377	84.94	85.183	85.25

Note — The averages are based on the price of refined bullion imported on or after August 31, 1942.



## U. S. Copper Exports

(A.B.M.S.) (Bureau of the Census)

	(In tons of 2,000 lbs.)		
	1954	1954	1954
	June	July	Aug.
Ore, conc., matte and other unrefined (cont.)	53	288	24
Refined ingots, bars, etc.†	20,216	19,811	23,245
Canada	1	28	64
Argentina		996	
Brazil	3,625	2,804	3,502
Austria	105	56	61
Denmark	179		
France	5,195	6,328	6,973
Germany (W.)	4,030	3,061	2,640
Italy	960	922	1,078
Netherlands	1,499	2,367	1,875
Norway		739	
Sweden		112	
Switzerland	336	1,063	493
U. Kingdom	2,627	341	2,820
India	588	728	84
Japan	32	191	235
Australia	1,000		3,360
Other countries	39	75	60
<b>Total Exports:</b>			
Crude & refined	20,269	20,099	23,269
Pipes & tubes	132	85	116
Plates & sheets	12	3	31
Rods	24	33	63
Wire, bare	602	290	132
Building wire and cable†	362	323	223
Weatherproof wire†	17	21	12
Insulated copper wire, n.e.s.†	2,672	1,233	679

† Includes exports of refined copper resulting from scrap that was reprocessed on toll for account of the shipper.  
‡ Gross weight; n.e.s. — not elsewhere specified.

## U. S. Zinc Exports

(A.B.M.S.) (Bureau of the Census)

	(In tons of 2,000 lbs.)		
	1954	1954	1954
	June	July	Aug.
Slabs, blocks, etc.	1,058	1,639	1,230
Canada		1	
Mexico		151	
Brazil	386	224	143
Belgium	280		
Germany (W.)	56	56	1,008
Italy		224	
Netherlands		336	
Sweden	112		
Switzerland	224	280	
U. Kingdom		224	
Korea		143	69
Other countries			10
<b>Total Exports:</b>			
Ore, conc., slab, blocks	1,058	1,639	1,230
Scrap: ashes, dross & skimmings	1,898	2,121	1,986
Rolled in sheets, plates & strips†	332	215	224
Alloys ex brass and bronze	72	83	34
Die castings	29	18	49

† Includes photoengraving sheets and plates.

## U. S. Copper Imports

(A.B.M.S.) (Bureau of the Census)

	(In tons of 2,000 lbs.)		
	1954	1954	1954
	June	July	Aug.
Ore, matte & reg. (cont.)	7,935	9,841	10,618
Canada	2,991	3,159	3,010
Mexico	1,268	903	1,168
Cuba	1,300	1,321	1,614
Bolivia	441	64	576
Chile	879	1,042	535
Peru	661	758	321
Philippines	9	2,117	2,328
U. of S. Africa	322	411	964
Australia	26	45	
Other countries	38	21	102
Blister copper (content)	27,047	20,596	27,520
Mexico	1,933	2,820	3,992
Chile	14,909	11,689	14,650
Belg. Congo	1,091	535	
N. Rhodesia	6,114	3,340	7,784
U. of S. Africa	1,666	1,665	
Turkey		547	1,094
Australia	1,334		
Refined cathodes and shapes	46,484	31,412	16,413
Canada	4,242	5,807	6,620
Mexico			826
Chile	39,262	23,143	6,412
Peru	1,112	1,600	1,305
Belgium		250	
Germany (W.)	4		
Norway	973	398	447
Yugoslavia	248	83	303
Belg. Congo	643	99	500
Other countries		32	
<b>Total Imports:</b>			
Crude & refined	81,466	61,849	54,551
In rolls, sheets or rods	519	632	570
Old and scrap (content)	404	446	678
Composition metal (content)			50
Brass scrap and old (cu. cont.)	318	171	228

## U. S. Lead Exports

(A.B.M.S.) (Bureau of the Census)

	(In tons of 2,000 lbs.)		
	1954	1954	1954
	June	July	Aug.
Pigs and bars	95	38	8
Canada	3	5	
Cuba	3	2	
Colombia		4	
Venezuela	2	11	
Philippines	80	6	
Costa Rica			3
Other countries	7	10	5
<b>Total Exports:</b>			
Ore, base bullion, refined	95	38	8
Sheets & pipes	39	35	11
Typemetal	23	8	51
Antimonial	19	4	37
Scrap	492	200	73

## Comparative Metal Prices

	1939	OPA	1954
	Av.	1946	Nov. 20
Copper, Domestic (Electro, Del. Valley)	11.20	14.375	30.00
Lead (N. Y.)	5.05	8.25	15.00
P. W. Zinc (E. St. Louis, f. o. b.)	5.05	5.05	11.50
New York, del.			12.00
Tin, Spot—Straits, N. Y.			90.875
Aluminum Ingot 99%+—	20.00	15.00	22.20
Antimony (R.M.M. brand, f. o. b. Laredo)	12.36	14.50	28.50

## U. S. Lead Imports

(A.B.M.S.) (Bureau of the Census)

	(In tons of 2,000 lbs.)		
	1954	1954	1954
	June	July	Aug.
Ore, matte, etc. (content)	11,201	14,512	14,016
Canada	3,607	5,100	3,128
Mexico	201	87	252
Guatemala		282	121
Honduras			474
Bolivia	1,468	1,127	1,237
Peru	3,137	2,584	3,667
U. of S. Africa	1,475	1,932	5,106
Philippines	307	143	31
Australia	981	3,257	
Other countries	25		
Base bullion (content)	41		
Peru	41		
Pigs and bars	30,576	28,376	24,644
Canada	7,935	7,810	5,005
Mexico	6,142	6,313	10,738
Peru	2,159	2,624	2,193
Belgium	201		
Denmark	834	442	121
Netherlands	44		
Spain		551	
U. Kingdom	65	15	5
Yugoslavia	5,646	4,471	3,175
Algeria	4,740		
Australia	2,810	6,150	3,407

### Total Imports:

Ore, base bullion, refined	41,818	42,888	38,660
Lead scrap, dross, etc. (cont.)	931	355	420
Antimonial lead & typemetal	545	361	71
Lead content thereof	438	267	38

## U. S. Zinc Imports

(A.B.M.S.) (Bureau of the Census)

	(In tons of 2,000 lbs.)		
	1954	1954	1954
	June	July	Aug.
Zinc ore (content)	38,463	34,129	44,721
Canada	13,354	12,502	17,741
Mexico	16,436	10,456	14,110
Guatemala			280
Honduras			134
Bolivia	637	74	97
Chile	197	679	208
Peru	7,392	7,629	11,612
Yugoslavia		2,313	
U. of S. Africa	163	245	530
Australia	222	198	
Philippines	62	33	9
<b>Zinc blocks, pigs, etc.</b>	14,559	20,019	11,410
Canada	11,376	18,394	5,311
Mexico	210	120	2,180
Peru	961	560	687
Belgium	282	146	1,532
Italy	457	771	281
Netherlands	55	28	55
Belg. Congo	1,218		524
Australia			840

### Total Imports:

Zinc ore, blocks, pigs	53,022	54,148	56,131
Dross and skim.	21		23
Old and worn out	232		

# World Production of Copper (American Bureau of Metal Statistics) (In Tons of 2,000 Pounds)

	United States	Canada	Mexico (crude)	Chile	Peru	Fed. Rep. of Germany	Norway	United Kingdom	Yugoslavia	India	Japan	Turkey	Australia	Northern Rhodesia	Union of South Africa
	(a)	(b)	(c)	(d)	(d)	(e)	(f)	(g-h)	(c)	(f-h)	(e)	(f)	(e)	(c)	(d)
1951 Total	964,589	269,971	60,511	296,937	25,495	234,647	.....	.....	.....	.....	100,254	.....	16,984	349,667	36,104
1952 Total	961,886	258,868	60,874	422,493	22,440	206,747	11,206	163,968	36,176	7,009	104,060	2,546	21,119	336,883	37,459
1953															
Mar.	82,221	24,039	5,608	30,203	2,125	20,358	.....	.....	3,210	.....	7,806	.....	3,849	28,636	3,100
Apr.	81,739	22,197	4,766	39,397	2,100	19,997	.....	.....	2,066	.....	7,626	.....	2,948	30,001	3,523
May	84,091	22,299	4,824	41,538	2,284	20,189	.....	.....	2,866	.....	7,906	.....	2,929	25,280	2,142
June	75,838	22,110	5,931	35,744	2,223	19,962	.....	.....	6,625	3,354	455	7,797	.....	4,164	35,790
July	79,938	22,801	5,621	29,502	2,359	20,914	.....	.....	4,879	3,081	719	7,444	.....	3,711	34,775
Aug.	79,376	21,437	5,352	29,652	2,513	18,836	.....	.....	8,164	3,158	585	8,681	2,343	3,450	32,207
Sept.	78,952	19,601	4,974	29,417	2,121	19,654	.....	.....	6,412	3,340	702	9,600	2,536	3,920	28,579
Oct.	83,433	19,229	5,888	20,340	2,140	20,865	.....	.....	11,172	3,336	769	9,849	.....	3,479	35,382
Nov.	79,934	17,315	5,486	9,669	2,268	20,466	.....	.....	13,791	2,612	759	9,581	1,618	3,240	34,262
Dec.	78,500	17,901	5,075	29,435	2,303	21,429	.....	.....	11,408	2,209	717	10,346	2,338	3,784	31,151
1954 Total	957,318	253,652	63,880	371,742	25,803	233,330	13,306	108,604	34,381	5,709	100,381	25,641	37,080	382,884	38,341
1954															
Jan.	76,912	17,791	5,543	29,759	1,910	20,687	1,111	18,079	2,833	357	10,211	.....	1,758	29,856	3,816
Feb.	68,034	18,370	5,146	28,673	1,465	19,359	939	11,404	1,330	718	10,052	.....	2,483	25,947	3,513
Mar.	73,429	26,679	4,646	21,441	1,599	21,264	1,227	10,926	2,249	769	11,240	.....	4,412	33,021	2,544
Apr.	70,977	27,940	4,380	21,116	2,412	22,494	1,176	13,289	3,135	728	11,074	.....	4,446	36,250	4,863
May	71,571	27,664	4,057	22,782	2,620	21,104	1,128	11,670	3,094	711	11,030	.....	5,011	32,154	2,631
June	74,113	26,077	5,650	28,590	2,400	20,016	1,231	11,920	3,097	647	8,654	.....	4,492	31,982	4,158
July	66,070	26,552	5,650	34,670	2,400	23,600	1,109	11,759	.....	720	10,519	.....	3,276	32,077	.....
Aug.	52,825	.....	5,394	.....	2,655	21,992	.....	11,758	.....	700	.....	.....	.....	32,709	.....
Sept.	61,612	.....	5,138	.....	2,579	.....	.....	.....	.....	.....	.....	.....	.....	34,513	.....

(a) Reported by Copper Institute. Crude, "recoverable contents of mine production or smelter production or shipments, and custom intake". Does not include intake of scrap nor of imported ore except that received from Cuba and Philippines. (b) Bilateral copper plus recoverable copper in concentrates, matte, etc., exported. (c) Crude copper, i. e., copper content of blister or converter copper as originally produced in the several countries, although some of it may be refined at home; e. g., in Rhodesia. (d) Blister and/or refined. (e) Refined. There are quantities of scrap included in the electrolytic production in addition to that reported, the amount of which is not obtainable. (f) Smelter production. (g) Refinery production from imported blister only. (h) British Bureau of Non-Ferrous Metal Statistics. \* Refined.

# World Production of Refined Lead (American Bureau of Metal Statistics) (In Tons of 2,000 Pounds)

	United States	Canada	Mexico	Peru	Belgium	France	Fed. Rep. of Germany	Italy	Spain	Yugoslavia	Japan	Australia	French Morocco	Tunisia	Rhodesia	Total
	(a)	(b)	(c)	(d)	(e)	(f)	(g)	(h)	(i)	(j)	(k)	(l)	(m)	(n)	(o)	(p)
1951 Total	486,874	162,712	219,352	48,824	77,873	53,831	170,766	39,683	45,460	.....	18,516	217,301	20,287	25,476	15,646	1,602,601
1952 Total	532,778	183,389	248,551	53,536	83,139	59,607	152,751	38,504	46,060	74,053	20,382	217,293	31,224	28,264	14,112	1,783,643
1953																
Mar.	47,993	15,112	24,883	5,809	7,251	5,348	14,149	3,466	4,601	7,098	2,079	20,683	2,945	1,612	1,344	164,373
Apr.	46,729	13,758	16,830	4,412	7,081	4,894	13,484	4,335	4,202	6,898	2,090	19,863	3,009	3,628	952	151,165
May	43,187	16,343	27,932	5,449	6,907	4,884	13,698	4,758	4,620	6,602	2,080	25,190	2,401	1,890	1,310	167,196
June	36,880	14,886	15,655	6,053	6,208	4,247	14,217	2,965	5,248	6,594	1,955	21,992	1,935	2,728	1,036	142,211
July	40,210	9,660	18,902	5,367	6,206	5,352	13,588	2,259	3,708	6,068	2,103	22,958	2,703	2,459	1,130	139,763
Aug.	38,022	11,615	19,801	5,428	6,164	3,866	12,265	2,359	4,266	6,281	2,135	22,312	2,169	2,889	1,120	132,262
Sept.	42,154	12,382	18,394	5,865	6,424	6,529	12,880	3,197	4,015	5,872	2,353	24,817	2,340	2,501	1,120	142,631
Oct.	44,741	12,646	19,907	5,935	6,457	6,208	14,610	5,072	5,635	6,984	2,071	23,754	2,639	2,666	1,120	160,445
Nov.	52,562	14,876	17,847	5,302	6,648	5,637	15,165	4,608	3,702	5,090	1,842	20,095	2,686	1,963	1,120	159,143
Dec.	48,687	14,913	19,262	5,634	6,900	6,584	15,674	3,635	4,406	6,581	2,467	26,464	2,590	2,643	1,120	167,560
1954 Total	533,883	166,356	225,075	66,520	84,162	60,887	164,077	40,786	53,799	78,038	25,513	241,419	29,970	30,397	12,891	1,813,773
1954																
Jan.	48,518	13,089	17,374	5,292	6,719	6,501	15,205	3,368	4,888	2,125	2,874	19,085	3,309	2,468	1,008	139,053
Feb.	42,046	12,325	16,052	3,620	6,792	6,078	12,996	3,363	6,033	5,832	3,276	17,244	3,297	2,917	1,400	163,582
Mar.	50,808	14,243	22,638	5,303	6,416	5,767	14,445	3,963	5,832	6,832	2,976	17,244	3,297	2,917	1,400	163,582
Apr.	46,730	14,875	20,819	5,609	6,063	7,666	13,147	3,255	4,637	6,917	2,926	17,796	2,986	1,205	1,848	156,479
May	49,139	15,107	20,723	4,847	6,101	6,953	13,030	3,668	5,729	6,762	2,900	23,052	2,562	2,069	1,120	163,762
June	42,317	14,377	17,651	6,332	6,282	6,256	14,642	3,601	4,318	5,816	3,068	28,049	1,788	3,837	1,568	152,273
July	35,716	.....	19,765	5,228	.....	6,414	13,295	3,754	6,317	6,151	3,580	.....	2,377	1,569	1,456	149,181
Aug.	44,089	.....	17,668	5,414	.....	1,402	10,826	1,516	.....	.....	.....	.....	2,233	2,651	2,240	.....
Sept.	47,762	.....	17,183	5,093	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	1,680	.....

(a) Production credited to Australia includes lead refined in England from Australian base bullion.

# World Production of Slab Zinc (American Bureau of Metal Statistics) (In Tons of 2,000 Pounds)

	United States	Can.	Mexico	Peru	Belgium	France	Fed. Rep. of Germany	Great Britain	Italy	Netherlands	Norway	Spain	Yugoslavia	Japan	Australia	Rhodesia	Total
	(a)	(b)	(c)	(d)	(e)	(f)	(g)	(h)	(i)	(j)	(k)	(l)	(m)	(n)	(o)	(p)	(q)
1951 Total	931,833	218,548	57,990	1,003	220,479	82,184	155,024	78,101	52,058	24,924	44,971	23,444	....	62,109	88,103	25,301	2,065,216
1952 Total	961,430	223,140	61,456	5,491	205,909	88,255	162,272	76,981	60,438	28,555	43,061	23,329	15,943	77,203	97,931	25,637	2,141,088
1953																	
Mar.	83,485	20,693	5,273	701	19,041	8,152	13,425	7,828	4,664	2,530	3,951	2,179	1,485	7,366	8,298	2,240	191,311
Apr.	80,459	20,004	4,154	839	19,044	7,987	12,927	6,317	5,484	2,417	3,778	2,148	1,484	7,456	7,951	2,184	184,632
May	82,422	20,090	4,814	631	19,216	8,088	13,228	6,423	6,594	2,296	3,691	2,140	1,458	7,456	8,211	2,268	189,028
June	81,617	20,590	4,918	406	17,789	7,185	13,023	7,980	6,508	2,126	3,527	2,095	1,381	7,271	7,249	2,408	186,023
July	80,825	21,595	5,071	757	16,824	7,447	13,414	6,198	6,356	2,179	1,398	1,985	1,281	7,833	8,195	2,464	184,241
Aug.	83,241	21,703	5,096	1,002	16,135	5,295	13,783	5,947	6,444	2,235	3,784	1,889	1,219	7,803	8,292	2,520	184,167
Sept.	81,211	21,157	4,975	882	16,248	6,497	13,821	7,355	5,941	2,178	4,506	1,965	1,272	7,417	8,164	2,464	183,899
Oct.	84,031	21,880	5,077	967	16,584	7,275	14,484	5,808	5,748	2,305	4,469	2,256	1,337	7,528	9,545	2,436	191,766
Nov.	75,891	21,051	4,931	932	17,183	7,460	14,392	8,211	5,446	2,276	2,916	2,259	1,314	6,943	9,471	2,576	181,006
Dec.	79,116	21,899	5,170	1,119	18,128	9,424	15,098	7,623	5,035	2,286	2,852	2,324	1,346	8,176	9,841	2,688	192,216
1954 Total	971,191	247,707	59,589	9,819	213,215	89,218	163,430	81,436	65,738	27,721	42,566	24,152	16,037	86,833	101,003	28,370	2,228,017
1954																	
Jan.	78,561	17,156	5,151	1,065	19,032	10,081	15,463	7,114	5,558	1,958	3,670	2,261	1,305	8,583	9,482	2,520	189,650
Feb.	68,020	15,199	4,710	1,078	18,963	8,888	13,872	6,676	4,674	2,114	3,629	1,938	1,210	7,711	8,961	2,380	170,123
Mar.	71,186	16,550	5,258	1,537	19,213	10,645	15,420	9,119	5,503	2,474	4,522	2,137	1,236	9,588	10,012	2,520	186,920
Apr.	70,258	16,250	4,798	1,365	19,262	10,413	15,287	6,808	5,832	2,452	4,102	1,921	1,256	9,526	9,736	2,520	181,876
May	73,654	16,530	5,090	1,689	20,095	10,485	15,859	7,253	5,992	2,562	4,153	1,990	1,396	9,880	10,031	2,576	189,223
June	71,540	17,017	4,828	1,641	19,973	10,159	15,014	9,365	5,887	2,479	4,042	1,986	619	9,073	9,374	2,604	185,578
July	70,749	17,917	5,038	1,573	19,341	10,744	15,746	7,266	7,495	2,600	4,233	2,223	1,166	9,747	10,487	2,604	188,455
Aug.	71,810	18,756	5,035	1,609	.....	10,451	15,691	7,072	6,500	.....	4,511	.....	.....	.....	10,180	2,632	188,455
Sept.	60,092	18,023	4,876	1,373	.....	.....	.....	8,576	.....	.....	4,215	.....	.....	.....	.....	2,402	.....

## U. K. Virgin Copper Stocks

British Bureau of Non-Ferrous Metal Statistics (In long tons)			
At start of:	1952	1953	1954
Jan. ....	113,359	131,968	55,344
Feb. ....	106,890	135,221	60,402
Mar. ....	103,123	146,911	60,084
Apr. ....	103,521	149,177	47,258
May ....	107,906	165,385	60,118
June ....	114,119	182,500	65,314
July ....	106,809	185,946	68,037
Aug. ....	107,619	198,609	67,307
Sept. ....	121,152	27,422	77,323
Oct. ....	121,649	31,850	.....
Nov. ....	119,052	36,824	.....
Dec. ....	126,394	50,407	.....

## U. K. Refined Lead Stocks

British Bureau of Non-Ferrous Metal Statistics (In long tons)			
At start of:	1952	1953	1954
Jan. ....	77,167	23,090	26,887
Feb. ....	89,831	27,486	32,653
Mar. ....	104,206	16,518	30,697
Apr. ....	110,598	13,781	28,312
May ....	116,249	17,144	30,005
June ....	120,261	29,007	29,793
July ....	121,576	26,868	30,437
Aug. ....	116,283	25,820	29,492
Sept. ....	116,480	28,290	26,298
Oct. ....	109,323	22,886	.....
Nov. ....	107,160	29,279	.....
Dec. ....	88,514	29,174	.....

## U. K. Stocks of Zinc

British Bureau of Non-Ferrous Metal Statistics (In tons of 2,240 lbs.)				
	Virgin Zinc		Zinc Conc.	
At start of:	1953	1954	1953	1954
Jan. ....	166,050	27,652	52,422	45,731
Feb. ....	16,545	35,411	61,346	42,581
Mar. ....	20,401	37,646	64,625	33,912
Apr. ....	23,783	40,710	56,489	26,076
May ....	30,821	38,953	58,815	32,517
June ....	34,078	38,409	56,514	33,801
July ....	31,661	40,389	55,218	39,280
Aug. ....	34,609	45,825	54,467	43,705
Sept. ....	33,348	48,769	55,702	41,467
Oct. ....	27,981	.....	49,636	.....
Nov. ....	24,731	.....	46,173	.....
Dec. ....	22,462	.....	45,094	.....

## U. K. Copper Imports

British Bureau of Non-Ferrous Metal Statistics (In tons of 2,240 lbs.)			
	1954	1954	Aug.
(Gross Weight)	June	July	Aug.
Copper and copper alloys ..	40,372	30,981	35,438
Copper unwrought:			
Electrolytic ..	25,104	18,219	20,445
Other refined ..	1,827	1,250	3,070
Blister or rough ..	13,418	11,469	11,902
Rods, sections, etc., and wire of brass and other alloys of copper	15	15	4
Other ..	8	23	17
U. of S. Africa ..	200	13	...
N. Rhodesia ..	23,494	15,059	21,197
Canada ..	6,569	5,562	4,565
Belgium ..	1,500	1,409	1,000
Germany (W.) ..	625	1,100	304
Sweden ..	2	...	...
United States ..	2,141	1,103	2,493
Chile ..	4,924	5,721	5,746
Other countries ..	917	1,014	133
Total ..	40,372	30,981	35,438

## Copper Consumption in United Kingdom

British Bureau of Non-Ferrous Metal Statistics (In tons of 2,240 pounds)						
	Unalloyed	Brass, etc	Sulphate	Total	Virgin	Scrap
1949 Total ...	305,614	180,227	10,879	496,720	318,736	177,984
1950 Total ...	303,833	204,427	13,738	521,998	333,700	188,298
1951 Total ...	300,665	243,152	11,041	554,853	330,361	224,487
1952 Total ...	313,374	243,836	14,629	571,839	347,646	224,193
1953						
June .....	16,483	14,856	1,027	32,366	15,416	16,950
July .....	16,187	13,788	898	30,873	14,698	16,175
August .....	16,097	11,109	463	27,669	22,973	4,696
September .....	20,947	17,765	737	39,449	29,437	10,012
October .....	23,618	19,323	801	43,742	32,615	11,127
November .....	22,285	19,148	784	42,217	31,118	11,099
December .....	22,952	18,502	779	42,233	32,570	9,663
Total .....	243,717	192,337	11,206	447,260	322,311	124,949
1954						
January .....	23,421	18,520	961	42,902	35,344	7,558
February .....	22,304	19,322	1,041	42,667	31,951	10,716
March .....	26,049	21,361	1,197	48,607	37,382	11,225
April .....	23,570	18,542	1,110	43,222	30,938	12,284
May .....	26,363	20,826	1,210	48,399	37,339	11,060
June .....	27,893	20,423	1,158	49,474	37,109	12,365
July .....	23,100	18,082	1,235	42,417	29,644	12,773
August .....	22,613	16,809	539	39,961	28,741	11,270

## U. K. Zinc Imports

British Bureau of Non-Ferrous Metal Statistics (In tons of 2,240 lbs.)			
	1954	1954	Aug.
(Gross Weight)	June	July	Aug.
Zinc ore			
and conc. ....	35,969	17,879	9,832
Australia .....	24,403	16,761	6,804
Canada .....	7,488	...	...
Other countries ..	4,078	1,118	3,028
Zinc conc.† .....	15,121	11,185	†
Australia .....	12,004	8,200	...
Canada .....	1,350	2,613	...
Burma .....	1,767	372	...
Zinc and zinc alloys ..	12,325	12,556	9,020
Zinc or spelter, unwrought, in ingots, blocks, bars, slabs and cakes .....	12,296	12,530	8,958
Other .....	29	26	62
N. Rhodesia ..	850	333	493
Australia .....	2,451	1,000	751
Canada .....	4,991	6,108	4,461
Belgium .....	1,266	2,531	758
Germany (W.) ..	3	6	4
Netherlands ..	385	21	50
Norway .....	...	252	250
United States ..	1,949	1,350	845
Other countries ..	430	955	1,408
Total .....	12,325	12,556	9,020

† British Bureau of Non-Ferrous Metal Statistics. The estimated zinc content is not the content of the gross weights as officially reported for any comparable period.  
‡ Not yet available.

## Zinc Imports and Exports by Principal Countries

(A.B.M.S.)			
	1954	1954	Aug.
	June	July	Aug.
Reported in slabs, blocks, etc.; metric tons except where otherwise noted.			
IMPORTS			
U. S. (s.t.) .....	14,559	20,019	11,410
Canada (s.t.) ..	16	11	...
Belgium .....	559	229	...
Denmark .....	417	240	461
France .....	1,779	722	683
Germany† .....	4,239	4,448	4,204
Italy .....	594	921	...
Netherlands ..	1,018	1,606	...
Sweden .....	2,203	2,043	2,344
Switzerland† ..	1,401	1,546	819
U. K. (l.t.) .....	12,325	12,556	9,020
India (l.t.) .....	3,107	3,045	...
EXPORTS			
U. S. (s.t.) .....	1,058	1,639	1,230
Canada (s.t.) ..	15,654	27,581	14,934
Belgium .....	11,497	8,164	...
Denmark .....	25	5	279
France .....	121	93	141
Germany† .....	693	920	627
Italy .....	1,576	1,538	...
Netherlands ..	874	1,184	...
Norway .....	1,851	...	...
Switzerland† ..	351	466	518
U. K.† (l.t.) ..	269	360	685
N. Rhodesia (l.t.)	1,941	2,541	2,320
Belg. Congo ....	1,887	1,331	...

† Includes scrap.  
‡ Includes manufactures.

## United Kingdom Tin Statistics

British Bureau of Non-Ferrous Metal Statistics							
TIN CONTENT OF TIN IN ORE				TIN METAL			
Imports	Production*	Consumption**	Stock at end of period*	Imports	Production*	Consumption	Stock at end of period
1952							
Year .....	28,836	954	29,350	2,364	2,885	29,521	22,555
1953							
May .....	3,593	95	2,450	4,351	86	2,410	1,351
June .....	2,440	136	3,100	3,651	10	2,895	1,519
July .....	2,891	85	3,300	3,328	22	3,289	1,328
August .....	2,945	44	2,650	3,782	20	2,611	1,177
September .....	2,720	98	3,100	3,358	7	2,892	1,820
October .....	2,151	99	2,850	2,769	35	2,667	1,680
November .....	1,812	80	2,550	2,228	50	2,521	1,541
December .....	2,639	83	2,350	2,450	25	2,249	1,768
Year .....	28,902	1,103	29,900	2,450	1,038	28,860	18,634
1954							
January .....	1,738	75	2,800	1,444	10	2,718	1,663

\*As reported by International Tin Study Group. Production of Tin Metal includes production from imported scrap and residues refined on toll. Stocks exclude strategic stock but include official warehouse stocks. \*\*Own estimates.



## Canada's Copper Output

(Dominion Bureau of Statistics)

(Refined Copper) (In Tons)				
	1951	1952	1953	1954
Jan.	20,870	20,364	21,830	15,001
Feb.	18,342	18,901	21,075	13,954
Mar.	20,564	20,480	22,432	21,075
Apr.	20,347	20,363	21,747	20,412
May	22,731	20,548	20,179	23,012
June	21,315	20,274	18,384	23,344
July	20,142	14,196	19,996	21,582
Aug.	21,740	9,396	19,886	22,000
Sept.	18,624	10,323	16,777	.....
Oct.	21,260	12,761	17,675	.....
Nov.	19,195	11,282	17,101	.....
Dec.	20,336	17,432	18,703	.....
Year	245,466	196,320	235,787	.....

## Canada's Lead Exports

(Dominion Bureau of Statistics)

(In Pigs) (In Tons)				
	1951	1952	1953	1954
Jan.	10,081	8,136	11,212	6,170
Feb.	6,527	9,702	8,710	7,560
Mar.	10,873	10,851	14,943	11,092
Apr.	8,537	10,450	14,765	9,606
May	14,813	11,020	7,039	11,483
June	5,756	10,466	13,434	12,018
July	5,795	10,249	1,537	13,152
Aug.	4,894	10,642	8,869	8,646
Sept.	6,944	14,121	3,903	.....
Oct.	8,660	13,193	7,532	.....
Nov.	12,929	12,703	6,581	.....
Dec.	9,927	8,208	4,354	.....
Year	105,736	129,741	102,879	.....

## Canada's Silver Exports

(Dominion Bureau of Statistics)

(In ores and concentrates) (Fine Ounces)			
	1952	1953	1954
Jan.	172,826	522,073	547,951
Feb.	144,635	218,421	567,225
Mar.	154,163	263,650	849,502
Apr.	280,130	311,141	572,059
May	222,133	419,569	660,724
June	273,447	323,913	682,906
July	380,190	614,320	1,210,045
Aug.	277,597	533,155	953,379
Sept.	209,566	527,771	.....
Oct.	928,483	1,015,012	.....
Nov.	353,841	463,667	.....
Dec.	149,437	473,826	.....
Year	3,546,448	5,686,518	.....

## Canada's Copper Exports

(Dominion Bureau of Statistics)

(Ingots, bars, slabs and billets) (In Tons)				
	1951	1952	1953	1954
Jan.	8,081	9,237	7,668	9,081
Feb.	6,600	4,947	16,411	8,385
Mar.	7,888	11,104	10,578	11,671
Apr.	12,336	10,948	11,153	11,218
May	6,940	11,355	14,726	18,407
June	8,115	8,178	15,053	14,877
July	9,160	7,815	13,939	15,467
Aug.	6,503	13,739	7,272	14,158
Sept.	8,010	10,908	8,139	.....
Oct.	6,968	11,040	8,957	.....
Nov.	3,387	10,004	9,062	.....
Dec.	13,343	4,500	9,036	.....
Year	101,831	113,675	131,994	.....

## Canada's Zinc Output

(Dominion Bureau of Statistics)

(Refined Zinc) (In Tons)				
	1951	1952	1953	1954
Jan.	18,244	19,242	18,370	17,155
Feb.	16,710	17,411	18,677	15,199
Mar.	18,138	18,953	20,693	16,550
Apr.	17,484	19,415	20,003	16,249
May	18,116	18,786	20,090	16,530
June	18,222	18,728	20,589	17,017
July	18,232	19,411	21,595	17,917
Aug.	18,352	18,924	21,703	18,755
Sept.	17,956	18,230	21,157	.....
Oct.	17,786	19,754	21,888	.....
Nov.	18,683	16,114	21,051	.....
Dec.	20,271	18,232	21,899	.....
Year	219,194	222,200	247,707	.....

## Canada's Silver Output

(Dominion Bureau of Statistics)

(In Ounces)			
	1952	1953	1954
Jan.	1,803,848	2,459,531	2,553,293
Feb.	2,022,126	2,255,113	2,050,440
Mar.	2,085,986	2,458,022	2,314,392
Apr.	2,521,864	3,076,852	2,700,315
May	2,274,279	2,520,180	2,507,702
June	1,907,137	1,538,663	2,702,761
July	1,831,089	2,353,542	2,731,774
Aug.	2,214,798	2,029,346	2,838,943
Sept.	1,817,435	2,067,294	.....
Oct.	1,857,118	2,097,630	.....
Nov.	2,421,617	2,207,170	.....
Dec.	2,464,930	2,361,452	.....
Year	25,222,227	28,424,795	.....

## Canada's Lead Output

(Dominion Bureau of Statistics)

(Recoverable Lead)* (In Tons)				
	1951	1952	1953	1954
Jan.	16,099	15,271	19,502	17,716
Feb.	12,001	11,072	16,888	16,863
Mar.	12,632	15,522	14,183	17,104
Apr.	10,063	14,547	18,640	19,452
May	11,126	13,770	16,120	19,953
June	13,811	11,172	15,302	18,988
July	11,017	11,460	11,969	19,164
Aug.	13,797	13,605	13,864	18,242
Sept.	11,899	14,488	14,335	.....
Oct.	15,052	16,641	16,327	.....
Nov.	14,785	12,884	19,433	.....
Dec.	15,562	18,406	19,273	.....
Year	158,231	168,842	195,836	.....

\* New base bullion from Canadian ores plus recoverable lead in ores or concentrates shipped for export.

## Canada's Zinc Exports

(Dominion Bureau of Statistics)

(Slabs in Tons)				
	1951	1952	1953	1954
Jan.	13,277	9,209	17,478	16,625
Feb.	4,602	17,639	13,580	11,328
Mar.	12,185	21,839	18,307	18,199
Apr.	14,014	18,205	17,068	17,926
May	13,776	12,514	15,595	13,926
June	14,337	14,393	14,919	15,654
July	13,597	12,800	10,068	14,934
Aug.	11,669	10,040	8,594	.....
Sept.	10,435	12,594	9,423	.....
Oct.	16,370	11,454	11,862	.....
Nov.	12,371	14,135	10,685	.....
Dec.	12,500	12,042	10,809	.....
Year	146,133	166,864	158,388	.....

## Canada's Nickel Output

(Dominion Bureau of Statistics)

(In Tons)				
	1951	1952	1953	1954
Jan.	10,993	11,813	12,446	12,670
Feb.	9,702	10,719	10,612	11,795
Mar.	11,676	12,381	12,218	13,502
Apr.	10,603	12,318	11,791	12,931
May	12,528	12,413	11,560	13,364
June	11,889	12,563	11,647	13,174
July	11,828	10,426	11,751	12,801
Aug.	12,304	11,975	11,681	13,319
Sept.	11,682	10,982	11,981	.....
Oct.	11,758	11,773	12,419	.....
Nov.	11,570	11,381	12,714	.....
Dec.	11,370	11,815	11,996	.....
Year	137,903	140,559	143,016	.....

## Canadian Copper Exports

(Dominion Bureau of Statistics)

(A.B.M.S.)

(In tons of 2,000 lbs.)

	1954		
	May	June	July
Ore, Matte, regulus, etc. (content) . . . . .	3,565	6,380	3,384
United States . . . . .	2,371	4,027	2,563
Germany (W.) . . . . .	379	725	...
Norway . . . . .	724	1,537	701
U. Kingdom . . . . .	91	91	120
Ingot, bars, billets . . . . .	18,407	14,877	15,467
United States . . . . .	5,300	5,517	6,918
Brazil . . . . .	671	281	937
France . . . . .	662	662	662
Germany (W.) . . . . .	95	140	...
U. Kingdom . . . . .	11,679	8,277	6,950
Total Exports:			
Crude & refined . . . . .	21,972	21,257	18,851
Old and scrap . . . . .	1,086	931	897
Rods, strips, sheet and tubing . . . . .	739	1,127	1,101

## Canadian Lead Exports

(Dominion Bureau of Statistics)

(A.B.M.S.)

(In tons of 2,000 lbs.)

	1954		
	May	June	July
Ore (lead content) . . . . .	5,036	8,035	6,912
United States . . . . .	4,247	3,659	4,390
Belgium . . . . .	...	1,890	1,259
Germany . . . . .	789	2,486	1,263
Refined lead . . . . .	11,483	12,017	13,153
United States . . . . .	5,525	7,721	8,053
Cuba . . . . .	1	...	...
Brazil . . . . .	85	124	565
U. Kingdom . . . . .	5,740	4,172	4,480
Japan . . . . .	131	...	54
Other countries . . . . .	1	...	1
Total Exports:			
Ore & Refined . . . . .	16,519	20,052	20,065
Pipe & tubing . . . . .	6	2	1
Lead scrap . . . . .	95	1	4

## Canadian Zinc Exports

(Dominion Bureau of Statistics)

(A.B.M.S.)

(In tons of 2,000 lbs.)

	1954		
	May	June	July
Ore (zinc content) . . . . .	12,078	19,496	22,672
United States . . . . .	12,078	12,460	11,667
Belgium . . . . .	...	479	6,422
France . . . . .	...	1,787	...
Norway . . . . .	...	...	4,583
U. Kingdom . . . . .	...	4,770	...
Slab zinc . . . . .	13,926	15,654	27,581
United States . . . . .	8,581	10,625	18,999
Brazil . . . . .	...	44	20
U. Kingdom . . . . .	5,345	4,985	8,402
Korea . . . . .	...	...	129
Other countries . . . . .	...	...	31
Total Exports:			
Ore and slabs . . . . .	26,004	35,150	50,253
Zinc scrap, dross, ashes . . . . .	734	445	668
United States . . . . .	48	...	50
Belgium . . . . .	563	397	370
Germany (W.) . . . . .	79	48	100
Japan . . . . .	28	...	...
India . . . . .	16	...	...
Netherlands . . . . .	...	...	148

## Copper Imports and Exports by Principal Countries

(A.B.M.S.)

Reported in ingots, slabs, etc.; metric tons except where otherwise noted.

### IMPORTS

	1954		
	June	July	Aug.
U. S. (blist., s.t.) . . . . .	27,047	20,596	27,520
(ref., s.t.) . . . . .	46,484	31,412	16,413
Belgium† . . . . .	24,710	7,015	...
Denmark . . . . .	326	213	206
France (crude) . . . . .	1,051	2,813	...
(refined) . . . . .	9,166	13,501	9,710
Italy . . . . .	5,191	3,060	...
Germany . . . . .	21,713	22,041	14,909
Netherlands . . . . .	1,533	2,767	...
Norway . . . . .	982	...	...
Sweden . . . . .	4,679	4,294	3,385
Switzerland . . . . .	3,120	2,872	3,776
U. K. (l.t.) . . . . .	40,372	30,981	35,438
India (ref., l.t.) . . . . .	1,349	1,850	...

### EXPORTS

U. S. (ref., s.t.) . . . . .	20,216	19,811	23,245
Canada (refined, s. t.) . . . . .	14,877	15,467	14,158
Belgium† . . . . .	11,785	9,464	...
Denmark . . . . .	80	84	...
Finland‡ . . . . .	75	...	...
Germany . . . . .	3,171	1,854	3,374
Norway . . . . .	1,110	...	...
Sweden . . . . .	1,340	2,901	1,967
U. K. (l.t.) . . . . .	2,318	2,213	2,353
Belg. Congo†† . . . . .	14,596	17,765	...
N. Rhodesia (ref. & blist., l.t.) . . . . .	30,031	30,900	35,866

† Includes old.

†† Includes copper alloys.

‡ Copper wire bars and ingot bars 99% and copper ingots 97%.

## French Zinc Imports

(A.B.M.S.)

(In metric tons)

	1954		
	July	Aug.	Sept.
Ore (gross weight) . . . . .	18,544	19,168	34,983
Canada . . . . .	2,778	270	2,563
Peru . . . . .	...	...	2,947
Belgium . . . . .	...	500	500
Germany (W.) . . . . .	250	476	...
Greece . . . . .	1,748	52	...
Italy . . . . .	204	1,401	1,399
Norway . . . . .	...	1,105	...
Spain . . . . .	...	4,913	5,705
Algeria . . . . .	4,384	6,492	4,065
Fr. Morocco . . . . .	4,925	1,670	15,765
Tunisia . . . . .	421	2,289	531
Australia . . . . .	3,834	...	1,508
Slabs, bars, blocks, etc. . . . .	722	683	876
United States . . . . .	51	...	...
Mexico . . . . .	25	...	...
Belgium . . . . .	645	410	742
Italy . . . . .	...	100	125
Netherlands . . . . .	...	150	...
U. Kingdom . . . . .	1	...	...
Algeria . . . . .	...	23	9

## French Copper Imports

(A.B.M.S.)

(In metric tons)

	1954		
	July	Aug.	Sept.
Crude copper for refining (blister, black and cement) . . . . .	2,813	...	813
Belg. Congo . . . . .	813	...	813
U. of S. Africa . . . . .	2,000	...	...
Refined . . . . .	13,501	9,710	15,701
United States . . . . .	2,618	4,335	5,401
Canada . . . . .	750	450	854
Peru . . . . .	468	727	495
Belgium . . . . .	3,905	874	4,043
Germany (W.) . . . . .	70	903	251
Sweden . . . . .	23	...	10
U. Kingdom . . . . .	565	872	259
Yugoslavia . . . . .	...	...	75
Belg. Congo . . . . .	4,734	1,434	3,577
Other Br. Africa (East Coast) . . . . .	341	...	537
Other countries . . . . .	27	115	199

Total Imports

Crude & refined . . . . . 16,314 9,710 16,514

## French Metal Exports

(A.B.M.S.)

(In metric tons)

	1954		
	July	Aug.	Sept.
Lead:			
Ore (gross weight) . . . . .	15	7	10
Pig lead:			
Non-argenti-ferous . . . . .	881	498	1,080
Antimonial lead . . . . .	25	53	34
Zinc:			
Slabs, bars, blocks, etc. . . . .	93	141	55
Copper:			
Crude copper for refining (blister, black and cement) . . . . .	1,030	58	...

## French Metal Exports

(A.B.M.S.)

(In metric tons)

	1954		
	June	July	Aug.
Lead:			
Ore (gross weight) . . . . .	37	15	7
Pig lead:			
Non-argenti-ferous . . . . .	603	881	498
Antimonial lead . . . . .	91	25	53
Zinc:			
Slabs, bars, blocks, etc. . . . .	121	92	141
Copper:			
Crude copper for refining (blister, black and cement) . . . . .	...	1,030	58

## Nonferrous Castings

MONTHLY SHIPMENTS, BY TYPE OF METAL  
(Bureau of Census — Thousands of Pounds)

	Alu- minum	Copper	Mag- nesium	Zinc	Lead Die
1949 Total	304,409	724,053	9,364	377,779	9,101
1950 Total	543,082	1,056,973	15,224	579,332	20,977
1951 Total	515,131	1,197,443	30,825	487,996	25,936
1952					
December	53,343	90,799	3,110	42,148	1,648
Total	518,979	1,009,910	34,857	408,353	20,941
1953					
April	61,461	94,063	3,332	51,301	1,979
May	57,340	84,550	2,705	44,174	1,792
June	56,492	83,947	3,063	48,806	1,777
July	51,196	69,597	2,287	39,968	1,506
August	50,428	77,652	2,490	37,800	1,806
September	53,306	79,595	2,455	38,611	1,743
October	55,097	83,899	3,024	40,882	1,709
November	51,014	74,782	2,681	37,688	1,405
December	51,579	77,675	2,691	38,661	1,231
Total	658,022	990,496	34,517	521,253	20,444
1954					
January	51,446	71,437	2,451	40,396	1,514
February	51,213	68,849	2,194	37,660	1,303
March	56,184	76,480	2,407	42,991	1,335
April	53,006	72,900	2,068	38,968	1,559
May	47,663	67,859	1,738	36,793	1,529
June	48,061	70,777	2,034	40,708	1,712
July	39,636	56,380	1,924	28,306	1,391
August	42,429	68,891	2,157	34,639	1,726

\*Computed on new basis as of October, 1952.

## Copper Castings Shipments

BY TYPE OF CASTING

	(Bureau of Census)	(Thousands of Pounds)			
	Total	Sand	Permanent Mold	Die	All Other
1949 Total	724,053	654,444	37,311	8,817	23,481
1950 Total	1,015,679	918,883	52,766	13,224	30,816
1951 Total	1,197,443	1,075,437	69,883	12,516	39,607
1952 Total	1,009,910	910,862	63,865	8,259	26,924
1953					
May	84,550	76,239	4,856	895	2,560
June	83,947	75,625	4,705	872	2,745
July	69,957	63,365	3,927	692	1,973
August	77,652	69,852	4,890	854	2,056
September	79,595	71,184	5,273	840	2,298
October	83,899	74,460	5,775	853	2,811
November	74,782	66,370	5,077	757	2,578
December	77,675	68,821	5,082	818	2,854
Total	990,496	888,369	61,316	10,077	30,734
1954					
January	71,437	63,034	4,618	816	2,969
February	68,849	60,913	4,743	758	2,435
March	76,480	67,952	5,123	875	2,530
April	72,900	65,418	4,732	377	2,373
May	67,859	61,469	3,755	318	2,317
June	70,777	64,328	3,567	466	2,426
July	56,380	51,070	3,073	393	1,844
August	68,891	63,389	3,547	459	1,496

\*Computed on new basis as of October, 1952.

## Nickel Averages

Electro, cathode sheets, 99.00%,  
f.o.b. refinery, duty included  
(cents per pound)

	1951	1952	1953	1954
Jan.	50.50	56.50	58.62	60.00
Feb.	50.50	56.50	60.00	60.00
Mar.	50.50	56.50	60.00	60.00
Apr.	50.50	56.50	60.00	60.00
May	50.50	56.50	60.00	60.00
June	56.27	56.50	60.00	60.00
July	56.50	56.50	60.00	60.00
Aug.	56.50	56.50	60.00	60.00
Sept.	56.50	56.50	60.00	60.00
Oct.	56.50	56.50	60.00	60.00
Nov.	56.50	56.50	60.00	....
Dec.	56.50	56.50	60.00	....
Av.	53.98	56.50	59.885	....

## Platinum Averages

N. Y. MONTHLY QUOTATIONS  
(Dollars per Troy Ounce)

	1951	1952	1953	1954
Jan.	91.50	91.50	91.50	91.40
Feb.	91.50	91.50	91.50	91.00
Mar.	91.50	91.50	91.50	87.88
Apr.	91.50	91.50	91.50	85.50
May	91.50	91.50	91.50	85.50
June	91.50	91.50	92.81	85.50
July	91.50	91.50	94.00	85.50
Aug.	91.50	91.50	94.00	85.50
Sept.	91.50	91.50	92.50	85.50
Oct.	91.50	91.50	92.50	83.62
Nov.	91.50	91.50	92.50	....
Dec.	91.50	91.50	92.15	....
Av.	91.50	91.50	92.496	....

## Prompt Tin Prices

(Straits, Open Market, N. Y.)

Monthly Average Prices

(cents per pound)

	1951	1952	1953	1954
Jan.	171.74	109.727†	121.50	84.84
Feb.	182.68	121.50†	121.50	85.04
Mar.	146.035†	121.50†	121.415	91.24
Apr.	145.95†	121.50†	101.07	96.238
May	139.954†	121.50†	97.387	93.51
June	118.048†	121.50†	92.933	94.24
July	106.00†	121.50†	81.826	96.55
Aug.	103.00†	121.50†	80.69	93.381
Sept.	103.00†	121.375	82.275	93.536
Oct.	103.00†	121.228	80.897	93.00
Nov.	103.00†	121.25	83.26	....
Dec.	103.00†	121.465	84.693	....
Av.	127.12	(A)	95.787	....

†RFC Prompt Grade A from March 13, 1951.

(A) RFC 1952 average price, 120.519c.  
Average Open Market Price, last four months  
of 1952, 121.344c.

## Monthly Tin Production at Longhorn Smelter

(From Concentrates)

(In tons of 2,240 pounds)

	1951	1952	1953	1954
Jan.	3,211	1,802	4,000	2,700
Feb.	3,096	1,800	3,400	3,008
Mar.	3,036	1,800	3,850	3,559
Apr.	3,058	1,800	3,750	3,006
May	3,059	1,800	3,100	2,054
June	2,655	NIL	3,000	1,205
July	2,406	NIL	3,000	NIL
Aug.	2,543	NIL	2,600	2,002
Sept.	2,155	2,450	2,700	2,404
Oct.	2,091	3,364	2,751	2,404
Nov.	1,806	4,020	2,750	....
Dec.	1,805	3,705	2,750	....
Total	30,921	22,541	37,651	....

## Quicksilver Averages

N. Y. Monthly Averages

Virgin, Dollars per 76-lb. Flask

	1951	1952	1953	1954
Jan.	199.18	209.19	214.88	189.60
Feb.	218.05	201.74	207.37	190.00
Mar.	216.92	207.74	199.92	201.63
Apr.	217.14	205.08	197.90	221.36
May	214.462	200.81	196.50	251.20
June	211.00	196.38	193.42	273.46
July	207.46	192.154	192.21	287.40
Aug.	199.24	188.115	190.42	290.71
Sept.	208.65	190.76	187.04	314.08
Oct.	220.02	194.00	184.62	329.50
Nov.	217.87	202.64	186.00	....
Dec.	214.92	215.30	188.38	....
Av.	212.08	200.50	194.89	....

METALS, NOVEMBER, 1954



# Primary Aluminum Output, Shipments and Stocks

(U. S. Department of Interior)

	Stocks beginning of month short tons	Production short tons	Short tons	Sold or Used Value f. o. b. plant	Stocks end of month short tons
<b>1953</b>					
September .....	24,378	109,333	106,720	42,916,029	26,991
October .....	26,991	108,219	113,420	45,733,162	21,790
November .....	21,790	105,636	97,374	39,304,264	30,052
December .....	30,052	110,291	101,024	40,681,905	39,317
<b>1954</b>					
January .....	39,319	116,247	112,831	45,540,192	42,735
February .....	42,735	110,483	94,724	38,110,318	58,494
March .....	58,494	122,339	117,587	47,220,513	63,246
April .....	63,246	120,434	120,786	48,598,623	62,894
May .....	62,894	125,138	115,838	46,534,504	72,194
June .....	72,194	120,758	124,914	50,460,097	68,038
July .....	68,038	126,161	118,578	47,659,340	75,621
August .....	75,621	125,296	130,668	52,658,509	70,249
September .....	70,249	120,332	141,709	58,299,854	48,872

## Aluminum Wrought Products

PRODUCERS' MONTHLY NET SHIPMENTS

(Bureau of Census — Thousands of Pounds)

	Total	Plate, Sheet, & Strip	Rolled Structural Shapes, Rod, Bar & Wire	Extruded Shapes, Tube Blooms & Tubing	Powder, Flake, & Paste
<b>1948 Total</b> .....	1,640,206	1,268,297	182,991	171,964	16,954
<b>1949 Total</b> .....	1,158,146	790,025	203,650	149,995	14,476
<b>1950 Total</b> .....	1,713,449	1,163,135	269,780	258,075	22,459
<b>1951 Total</b> .....	1,756,244	1,073,367	345,163	312,944	24,770
<b>1952 Total</b> .....	1,924,750	1,085,699	443,546	347,542	47,963
<b>1953</b>					
April .....	220,025	129,172	46,490	40,697	3,666
May .....	209,667	123,616	41,725	40,628	3,698
June .....	205,585	121,219	40,258	41,224	2,884
July .....	202,796	123,429	37,453	39,273	2,641
August .....	191,007	117,826	32,180	37,623	3,378
September .....	184,143	111,807	33,295	35,597	3,444
October .....	186,056	113,589	29,168	38,720	4,579
November .....	148,894	89,383	24,041	31,590	3,880
December .....	149,221	91,162	23,187	30,709	4,163
<b>Total</b> .....	2,286,865	1,368,165	422,046	451,922	44,732
<b>1954</b>					
January .....	153,920	84,293	31,600	34,576	3,451
February .....	145,335	80,505	29,577	31,583	3,664
March .....	170,010	92,955	32,698	38,928	5,429
April .....	174,176	96,893	33,637	39,246	4,420
May .....	168,678	94,886	21,197	40,981	3,514
June .....	184,205	102,026	31,299	46,146	4,734
July .....	169,917	94,656	28,732	42,686	3,843
August .....	184,767	104,580	33,797	44,020	3,684
September .....	182,576	101,075	33,797	44,020	3,684

## Aluminum Castings Shipments

(Bureau of Census)

BY TYPE OF CASTING

(Thousands of Pounds)

	Total	Sand	Permanent Mold	Die	All Other
<b>1949 Total</b> .....	351,778	122,604	123,523	93,340	7,311
<b>1950 Total</b> .....	543,082	184,782	181,366	167,201	9,733
<b>1951 Total</b> .....	515,131	193,378	160,011	151,465	10,277
<b>1952 Total</b> .....	518,979	194,616	146,883	169,732	7,748
<b>1953</b>					
May .....	57,340	19,639	16,528	20,858	315
June .....	56,492	19,349	15,528	21,335	280
July .....	51,196	16,614	15,692	18,549	341
August .....	50,428	15,940	16,252	17,837	399
September .....	53,306	17,826	17,189	17,857	416
October .....	55,097	17,171	17,030	20,547	349
November .....	51,014	16,169	15,396	19,012	437
December .....	51,579	15,265	16,907	18,963	436
<b>Total</b> .....	658,022	214,553	200,025	239,330	4,114
<b>1954</b>					
January .....	51,446	14,698	16,615	19,709	424
February .....	51,213	14,696	17,281	18,754	482
March .....	56,184	14,468	19,576	21,645	495
April .....	53,006	14,073	18,091	20,366	476
May .....	47,663	12,461	16,312	18,368	522
June .....	48,061	12,442	17,105	17,886	628
July .....	39,636	11,299	13,749	14,004	584
August .....	42,429	11,252	15,335	15,213	629

\*Computed on new basis as of October, 1952.

## Virgin Aluminum

Virgin 99% Delivered

Monthly Average Prices

(Cents per pound)

	1951	1952	1953	1954
Jan. 19.00	19.00	20.173	21.50	
Feb. 19.00	19.00	20.50	21.50	
Mar. 19.00	19.00	20.50	21.50	
Apr. 19.00	19.00	20.50	21.50	
May 19.00	19.00	20.50	21.50	
June 19.00	19.00	20.50	21.50	
July 19.00	19.00	20.962	21.50	
Aug. 19.00	19.846	21.50	22.12	
Sept. 19.00	20.00	21.50	22.20	
Oct. 19.00	20.00	21.50	22.20	
Nov. 19.00	20.00	21.50	....	
Dec. 19.00	20.00	21.50	....	
Av. 19.00	19.404	20.928	....	

## Magnesium Wrought Products Shipments

(Bureau of Census)

(Thousands of Pounds)

	1951	1952	1953	1954
Jan. ..	1,522	1,635	1,313	972
Feb. ..	1,489	1,748	1,454	1,058
Mar. ..	1,889	1,712	1,601	1,136
Apr. ..	1,531	1,745	1,708	892
May ..	1,716	1,804	1,699	1,129
June ..	1,643	1,428	1,192	1,312
July ..	1,391	1,390	1,589	1,032
Aug. ..	1,497	1,438	1,433	1,111
Sept. ..	1,461	1,305	1,254	1,183
Oct. ..	1,773	1,408	1,409	....
Nov. ..	1,645	1,178	1,314	....
Dec. ..	1,533	1,440	919	....
Total	19,090	18,249	16,885	....
Total	12,810	19,090	18,249	16,885

## Cadmium Averages

N. Y. Monthly Averages

Cents per lb. in ton lots

	1951	1952	1953	1954
Jan. 255.00	255.00	193.00	200.00	
Feb. 255.00	255.00	200.00	170.00	
Mar. 255.00	255.00	200.00	170.00	
Apr. 255.00	255.00	200.00	170.00	
May 255.00	237.00	200.00	170.00	
June 255.00	225.00	200.00	170.00	
July 255.00	225.00	200.00	170.00	
Aug. 255.00	200.00	200.00	170.00	
Sept. 255.00	200.00	200.00	170.00	
Oct. 255.00	200.00	200.00	170.00	
Nov. 255.00	200.00	200.00	....	
Dec. 255.00	179.81	200.00	....	
Av. 255.00	223.90	199.44	....	

# Steel Ingot Production

(American Iron and Steel Institute)

		Estimated Production —				All Companies		Calculated	
		OPEN HEARTH		BESSEMER		ELECTRIC		TOTAL	
Period		Per cent		Per cent		Per cent		Per cent	
		Net tons of capacity	Net tons of capacity	Net tons of capacity	Net tons of capacity	Net tons of capacity	Net tons of capacity		
1949	Total	70,227,775	82.8	3,946,656	76.0	3,693,922	60.4	77,868,353	81.0
1950	Total	86,262,509	98.7	4,534,558	81.3	6,039,008	86.5	96,836,075	96.9
1951	Total	93,146,625	102.3	4,890,946	87.0	7,096,982	93.9	105,134,553	100.9
1952	Total	82,846,439	87.2	3,523,677	65.5	6,797,923	82.6	93,168,039	85.8
1953									
	Jan.	8,925,163	102.3	354,577	90.0	717,340	82.5	9,997,080	100.1
	June	8,394,502	99.4	332,060	87.0	677,917	80.5	9,404,479	97.2
	July	8,316,342	95.5	324,068	82.4	635,263	73.2	9,275,673	93.1
	August	8,465,155	97.0	310,074	78.7	632,351	72.7	9,408,580	94.2
	September	8,076,277	95.8	287,638	75.6	519,513	61.9	8,883,428	92.1
	October	8,648,428	99.1	325,250	82.6	489,044	56.3	9,462,722	94.7
	November	8,002,349	94.7	283,321	74.3	404,382	48.0	8,690,052	89.9
	December	7,321,947	84.1	269,813	68.6	354,568	40.9	7,946,328	79.7
	Total	100,478,823	97.9	3,855,705	83.2	7,280,191	71.1	111,609,719	94.9
1954									
	January	7,256,526	78.3	260,453	64.0	434,507	48.9	7,951,486	75.3
	February	6,523,213	77.9	174,523	47.4	385,771	48.1	7,083,237	74.3
	March	6,849,567	71.7	207,726	51.1	482,207	48.3	7,289,600	69.0
	April	6,365,326	70.9	162,567	41.3	442,954	51.5	6,810,937	68.0
	May	6,817,951	73.6	198,063	48.7	456,724	51.4	7,472,738	70.7
	June	6,702,006	74.7	209,666	52.7	453,962	52.8	7,363,634	72.0
	July	6,040,120	65.3	205,313	50.6	382,164	43.1	6,627,597	62.9
	Aug.	6,021,496	65.0	217,837	53.6	427,574	48.2	6,666,907	63.1
	Sept.	6,109,000	68.2	214,000	54.5	448,000	52.2	6,771,000	66.3

## Blast Furnace Output

(American Iron and Steel Institute)

Period	net tons		Total Capacity	% of capacity
	Pig Iron	Ferro-manganese and Silicium		
1945				
Ttl. Yr.	53,454,872	712,210	54,167,082	80.5
1946				
Ttl. Yr.	44,954,801	523,729	45,378,530	67.4
1947				
Ttl. Yr.	58,507,169	702,561	59,209,730	90.1
1948				
Ttl. Yr.	60,135,941	712,899	60,848,840	90.2
1949				
Ttl. Yr.	53,613,779	592,564	54,206,343	76.8
1950				
Ttl. Yr.	64,810,272	673,896	65,484,168	91.5
1951				
Ttl. Yr.	70,487,380	745,381	71,232,761	98.8
1952				
June	1,056,278	12,003	1,068,281	17.6
July	995,957	6,587	1,002,512	16.1
Aug.	8,782,995	48,661	8,830,757	93.9
Sept.	6,095,866	68,500	6,164,365	102.1
Oct.	6,442,924	73,067	6,515,991	104.2
Nov.	6,156,565	71,723	6,227,283	102.9
Dec.	6,436,136	73,400	6,509,536	104.4
Total	61,528,665	629,926	62,158,591	84.2
1953				
Jan.	6,482,081	82,302	6,564,383	97.3
Feb.	5,813,202	68,316	5,881,518	96.5
Mar.	6,611,040	66,321	6,677,361	99.0
Apr.	6,171,939	58,702	6,230,641	95.4
May	6,519,082	68,033	6,587,115	97.7
June	6,297,559	74,972	6,372,531	97.6
July	6,436,345	80,142	6,516,487	96.8
Aug.	6,391,749	79,805	6,471,554	96.0
Sept.	6,132,330	69,689	6,202,019	95.2
Oct.	6,419,752	77,958	6,497,710	96.3
Nov.	5,999,704	62,896	6,062,600	92.8
Dec.	5,712,938	65,902	5,778,840	85.9
Total	74,987,721	865,038	75,842,759	95.5
1954				
Jan.	5,516,689	63,824	5,579,513	80.1
Feb.	4,764,613	45,941	4,810,554	76.5
Mar.	4,907,147	52,156	4,959,303	71.2
Apr.	4,449,289	53,277	4,502,566	66.7
May	4,572,252	52,187	4,624,439	66.4
June	4,683,629	40,521	4,724,150	70.0
July	4,590,076	36,108	4,626,184	66.6
Aug.	4,529,291	37,744	4,567,035	71.0
Sept.	4,417,888	43,934	4,461,822	66.3

## GALVANIZED SHEET SHIPMENTS

(American Iron and Steel Institute)

Period	(Net Tons)		1953	1954
	1951	1952		
Jan.	180,399	165,196	201,472	169,086
Feb.	146,200	152,761	183,503	167,433
Mar.	172,535	177,674	204,995	180,198
Apr.	174,129	170,583	196,656	203,312
May	177,310	182,978	189,765	201,671
June	176,498	53,947	184,862	200,456
July	161,428	56,254	185,896	214,349
Aug.	190,578	177,661	187,741	207,113
Sept.	157,170	201,318	194,257	209,765
Oct.	160,552	219,883	208,705	.....
Nov.	143,044	194,712	177,391	.....
Dec.	145,071	208,191	175,375	.....
Total	1,984,961	1,961,158	2,290,868	.....

## Steel Castings Shipments

(Bureau of Census)

Period	(Short Tons)		For Own Use
	Total	For Sale	
1948	1,760,032	1,335,295	424,737
1949	1,250,460	865,297	385,163
1950	1,461,667	929,192	374,217
1951	2,101,604	1,507,413	594,191
1952			
June	141,628	114,410	27,218
July	119,036	97,633	21,403
Aug.	150,232	113,997	36,235
Sept.	158,392	121,402	36,990
Oct.	165,155	124,629	40,529
Nov.	148,259	110,467	37,792
Dec.	162,237	122,670	39,567
Total	1,925,116	1,476,352	448,767
1953			
Jan.	167,211	126,819	40,392
Feb.	175,675	137,592	38,083
Mar.	182,181	141,873	40,308
Apr.	179,615	140,051	39,564
May	165,649	126,380	39,269
June	164,665	125,984	38,681
July	139,577	105,687	33,890
Aug.	141,340	107,941	33,399
Sept.	135,303	102,880	32,423
Oct.	140,702	106,788	33,914
Nov.	114,088	84,945	29,143
Dec.	123,281	91,017	32,264
Total	1,829,277	1,290,016	431,330
1954			
Jan.	122,758	93,577	29,181
Feb.	116,520	88,699	27,821
Mar.	122,310	92,271	30,039
Apr.	105,788	78,754	27,034
May	94,610	70,596	24,014
June	100,022	72,881	27,141
July	75,848	53,207	22,641
Aug.	89,590	66,792	22,798

## SHIPMENTS OF TIN-TERNE PLATE

(American Iron and Steel Institute)

Period	(Net Tons)		1953	1954
	Hot Dipped	Electrolytic		
Jan.	121,634	93,776	211,635	317,587
Feb.	105,608	95,386	267,824	297,169
Mar.	130,111	120,471	318,049	354,233
Apr.	122,291	103,910	319,386	340,838
May	122,710	145,783	336,209	461,026
June	127,570	187,508	313,595	502,466
July	102,291	79,096	302,235	162,771
Aug.	118,884	113,747	271,490	227,858
Sept.	95,060	161,007	244,718	418,874
Oct.	98,889	.....	262,548	.....
Nov.	84,242	.....	218,694	.....
Dec.	88,790	.....	177,075	.....
Total	1,318,080	.....	3,343,458	.....

# Steel Ingot Operations

(Percentage of Capacity as Reported by)

(American Iron & Steel Institute)

Beginning	1951	1952	1953	1954
Jan. 4...	99.1	102.1	98.2	75.4
Jan. 11...	99.6	98.7	99.3	74.3
Jan. 18...	100.9	99.4	99.7	74.1
Jan. 25...	101.3	100.1	99.4	75.6
Feb. 1...	96.7	100.6	97.7	74.4
Feb. 8...	98.5	100.1	99.7	74.4
Feb. 15...	99.5	100.6	99.1	74.6
Feb. 22...	99.8	100.9	99.4	73.6
Mar. 1...	101.0	101.3	100.3	70.7
Mar. 8...	100.1	101.8	101.3	69.3
Mar. 15...	101.1	102.4	101.5	67.6
Mar. 22...	103.5	102.6	103.1	68.1
Mar. 29...	102.4	102.1	97.1	69.1
Apr. 5...	102.3	62.3	98.9	68.0
Apr. 12...	102.9	97.0	98.8	68.0
Apr. 19...	103.3	100.4	101.0	68.6
Apr. 26...	104.0	52.1	100.3	68.7
May 3...	103.7	83.0	100.2	69.4
May 10...	103.9	100.3	100.3	70.9
May 17...	103.6	101.3	99.8	71.8
May 24...	102.7	102.3	100.3	71.2
May 31...	103.2	38.7	99.6	70.2
June 7...	103.2	12.5	97.9	73.2
June 14...	103.2	11.8	96.8	72.3
June 21...	102.8	12.3	96.8	72.1
June 28...	100.8	13.3	91.8	65.8
July 5...	101.5	14.2	92.8	60.0
July 12...	101.9	15.1	94.7	64.3
July 19...	101.4	15.3	94.4	65.3
July 26...	101.5	42.9	92.6	64.2
Aug. 2...	101.1	89.9	94.0	64.0
Aug. 9...	101.5	93.3	95.2	64.0
Aug. 16...	100.4	97.1	95.9	61.8
Aug. 23...	99.8	98.7	93.4	63.5
Aug. 30...	98.3	98.9	90.5	64.0
Sept. 6...	100.0	100.8	89.2	63.0
Sept. 13...	101.2	102.1	91.4	66.3
Sept. 20...	102.1	104.0	95.1	68.7
Sept. 27...	102.6	105.7	95.3	70.4
Oct. 4...	101.8	106.6	95.2	71.0
Oct. 11...	102.1	105.8	96.3	72.8
Oct. 18...	102.9	106.9	95.0	73.6
Oct. 25...	104.5	107.3	94.6	74.5
Nov. 1...	101.0	105.9	93.0	76.4
Nov. 8...	101.0	106.4	92.3	77.2
Nov. 15...	103.7	106.5	90.7	...
Nov. 22...	104.0	106.1	86.8	...
Nov. 29...	103.6	105.0	87.5	...
Dec. 6...	104.1	106.3	86.7	...
Dec. 13...	104.9	107.7	84.3	...
Dec. 20...	101.4	102.7	64.1	...
Dec. 27...	102.0	107.2	75.7	...

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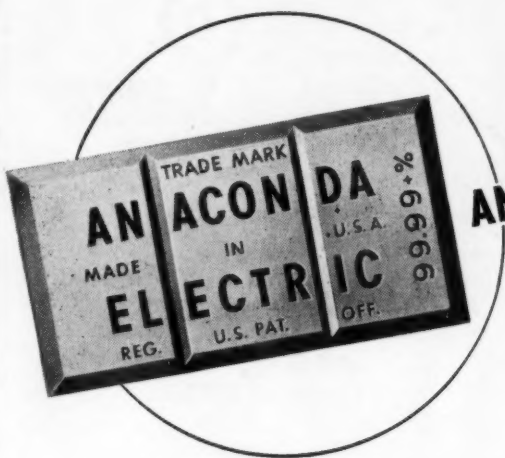
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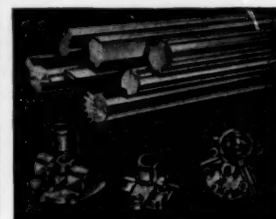
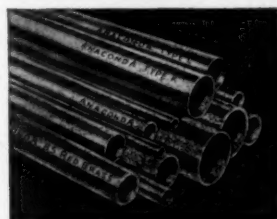
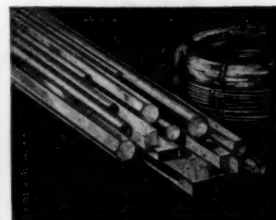
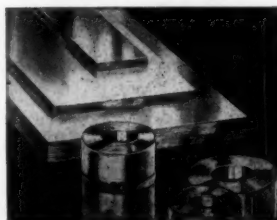
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